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THE WAGES OF UNSKILLED LABOR IN THE UNITED STATES 1850–1900

The wages question is one of the economic problems that have a never-waning interest alike for the layman and the scientist. However different their points of view may be, we yet find the business man, the politician, the economist each as much interested as the other to know precisely what the facts in the case may be. Do they show that the working classes have shared as they should in the benefits of a half-century of phenomenal industrial progress? Complaints have not been wanting that the laboring-man's share in these stupendous industrial gains has been pitifully small and mean;[1] that the development of the machine system has tended to reduce labor to a uniform and very low degree of skill, and to depress the wages of all toward the lower wage-level of the unskilled.[2]

[1] We find, for example, the preamble of at least one trade-union constitution declaring that, in spite of the material splendor of the age, the wage-earners are poorer today than ever before. ("Constitution of the International Brotherhood of Electrical Workers," quoted in the *Report of the Industrial Commission*, Vol. XVII, p. 143.)

[2] This was Marx's contention in the *Manifesto*. "Owing to the extensive use of machinery . . . . [the workman] becomes an appendage of the machine, and it is only the most simple, most monotonous, and most easily acquired knack that is required of him. . . . . In proportion as the repulsiveness of the work increases, the wage decreases."—*Manifesto of the Communist Party*, English translation, 2d ed., p. 12.

The most important question connected with the progress of the working classes is, however, no longer a subject for vague generalizations. Expert statisticians have shown that there has been a very real increase in wages[3] during the century that lies behind us; and the problem before us today is not to prove this fact, but rather to discover, if possible, how this increase in wages has been distributed among the working-classes themselves; to find out whether the lowest stratum of labor has had its proportionate share, or indeed any share, of these gains. Apart, now, from any question as to the correctness of Professor Falkner's statistical methods, tables like his, which show only the change in general wages,[4] without indicating in any way to what groups of laborers this increase has gone, leave us still questioning whether the higher grades of labor may not have gained proportionately more than the lower grades.[5] Such statistics fail to throw any light at all where light is most needed — on the condition of the great army of the unskilled; for it is here, after all, that the heart of the labor problem is found.

The skilled laborers, with their strong unions and their ability to earn wages which, whether a just or an unjust share of the product of industry, at any rate place them beyond the fear of want, do not make the same demands on public sympathy and attention as do the helpless masses of the unskilled — the ignorant and the incompetent, whose numbers constantly forebode unemployment, and whose wages, even when regularly earned, afford

[3] See the work of Professor Falkner in *Senate Report* No. 1394, Finance Committee, Vol. I, Tables 37 and 39, better known as the "Aldrich Report;" and the work of Mr. A. L. Bowley, "Wages in the United States and Great Britain," *Economic Journal*, Vol. V, p. 369. While many persons would be unwilling to grant that wages had increased at the rate shown by either of these statisticians, yet the fact that they have actually increased will probably not be questioned.

[4] The Aldrich Report, *op. cit.*, shows an increase of more than 60 per cent. in general wages in forty years. These are the only tables of American wages for any considerable period of years, but they have not been generally accepted, owing to the use of questionable and defective methods in their preparation. See pp. 340 ff.

[5] "There are innumerable volumes of wage statistics containing averages so general, and confusing so skilfully all the different classes of labor, that it is next to impossible to make anything specific out of the material." — Robert Hunter, *Poverty*, p. 13.

but a precarious existence. The unskilled laborer is the man without education, technical training, dexterity, or exceptional strength. He is not hopelessly incapable, he is not crippled either in mind or body, but his whole equipment consists only of a fair degree of physical strength — for exceptional strength is a kind of skill — and a certain measure of plodding patience. No provision was made for teaching him a trade, and he lacks both the courage and the "divine discontent" which might lead him to try to master one for himself. He is the real "child of poverty," who ends life where he began it, without perhaps ever lifting his hand toward the next round of the ladder. He does work which requires no preliminary training, and which does not demand the possession, in any large measure, of such personal qualities as trustworthiness, judgment, or responsibility. Whether a common laborer, coal-wheeler, teamster, or a man policing a machine, he is in a high degree an unspecialized worker, who is not really bound within the limits of any industrial, or even occupational, group. He is a kind of a free-lance in the labor world, a man who hunts for a "job" irrespective of its character.[6]

Unskilled has come to be in a measure synonymous with unorganized and underpaid. A working-class leader recently confessed that "in this question of the unskilled lies the very essence of the trade-union problem."[7] And we are told by

[6] It is, of course, very difficult to draw the line between skilled and unskilled, and Mr. Bowley has, in the following definition, come nearer success than anyone else that has tried: "It is no longer always possible to label a particular man categorically as skilled or unskilled. There is still to a certain extent, however, the distinction between the man who has learned a trade — called in trade-union language a 'journeyman' or 'tradesman' — and the man who does only unspecialized work; and it is still the case that in any large workshop there will be found two groups of men corresponding to these two classes; for instance, a blacksmith has his striker, a bricklayer his laborer, a riveter his holder-up, a plumber his mate, and an erector his laborer." — *Wages in the United Kingdom*, p. 23. Mr. Mitchell, however, does not place "helpers" in the unskilled class, but in a second and rather anomalous group. His classification is (1) unskilled laborers, (2) assistants of handicraftsmen, (3) skilled handicraftsmen, (4) superintendents. — *History of the Greenbacks*, p. 301. See also Marshall's discussion of the difference between skilled and unskilled, *Principles of Economics*, 4th ed., pp. 284–87.

[7] John Mitchell, *Organized Labor*, p. 167.

students of its causes and conditions that the problem of poverty also lies here.[8] It is among this class that the evils of unemployment are greatest. Much of the work done by the unskilled is in a high degree seasonal. The dock-hand, the quarryman, the great army of laborers and teamsters in the building trades must, many of them, look for "odd jobs" during the winter. Moreover, they feel constantly the pressure of competition, for behind the unskilled is the whole "reserve army of industry," — the immigrants, the vagrants, and the "unemployable," men and women "either mentally or physically too weak to earn a living."[9] It is among this class that the question of the "living wage" becomes a vital one. Those who belong here seem to move always along the shadowy line that separates independence from pauperism — a line which, without warning, shades off now into the one and then back to the other. To the condition of this class a larger share of attention should be directed. Ignorant, incapable, and for the most part unorganized, they cannot help themselves, and society must face the question of doing something to help them, if it would learn the first lesson in solving the problem of poverty. It must not be forgotten that the unskilled are a dangerous class; inadequately fed, clothed, and housed, they threaten the health of the community, and, like all the weak and ignorant, they often become the misguided followers of unscrupulous men. The problem of the unskilled is one of large significance, and the most important question connected with it is that of wages. We cannot know how men live unless we know what they earn. It is equally important to know whether or not their earning power has

[8] Mr. Rowntree (*Poverty*, p. 120) estimates that 51.96 per cent. of the cases of those in primary poverty are caused by regular work, but low wages. Hobson (*Problems of Poverty*, p. 227) says: "The great problem of poverty resides in the conditions of the low-skilled workman. . . . . He cannot organize because he is so poor, so ignorant, so weak. Because he is not organized he continues to be poor, ignorant, weak. Here is a great dilemma of which whoever shall have found the key will have done much to solve the problem of poverty." Mr. Hunter (*Poverty*, p. 56) believes that it "can be assumed that the problem of poverty in this country is in ordinary times confined to a certain percentage of the unskilled laborers who have employment, to most unskilled laborers without employment, and to many unemployed skilled workers."

[9] Canon Barnett, *Economic Journal*, Vol. XII, p. 383.

been increasing, and at what rate. If there has been no progress, or if the rate of progress has been proportionately small — these are facts that should not be neglected.

In the present study an attempt is made to arrive at an exact estimate of the change in the wages of unskilled labor in the United States during the latter half of the last century.[10] Such a study is thought necessary for two reasons: (1) because of the light it may throw on the condition of this lowest and most depressed group of the laboring-class; and (2) because it is believed that the only proper way to treat wage statistics is to study separately the wages of laborers of the same grade of skill. A history of the wages of unskilled labor is, therefore, the first step toward a complete history of wages.

Reserving until a later portion of this paper a discussion of the reasons for these last statements, it should be said here that a general average of the wages of men of all grades of skill, when the range of wages must necessarily be very great, is an attempt to average things that cannot be averaged — like Mayo-Smith's

[10] Although no statistical study of unskilled labor for any considerable period of years has yet been made, the importance of a separate treatment of the wages of this class has several times been pointed out. Mr. Bowley (*Economic Journal*, Vol. VIII, p. 479) says: "Wages of different classes of working-people are continually changing at different rates, just as are the prices of different commodities. Special causes affect each industry and each wage group." See also the same author's *Wages in the United Kingdom*, pp. 23, 24. Professor Carver (*Publications of the American Economic Association*, 3d series, Vol. IV, p. 149) has called attention to the fact that "the increase in wages is not so apparent in the lower as in the higher grades of labor." Professor T. S. Adams (Adams and Sumner, *Labor Problems*, p. 513) makes the statement that "candid students doubted whether the total body of wage-earners — taking into account the slow progress and large numbers of agricultural and unskilled workers — were very much better off than they had been about 1870." Mr. Mitchell (*History of the Greenbacks*, chap. 5) makes a separate estimate of the wages of unskilled labor for the Civil War period, and Mr. Swank does the same thing for the iron and steel industry in 1880 (*Tenth Census*, Vol. II, p. 745 and tables following). A similar classification is used for some tables in the *Eleventh Census*. See, for example, the tables on pp. 134 and 206 (*Eleventh Census*, "Manufacturing Industries," III). Mayo-Smith also notes the value of this method of treatment (*Quarterly Journal of Economics*, Vol. II, p. 399). For the importance of a study of the unskilled, see Hobson, *Problems of Poverty*, chap. 11; Mitchell, *Organized Labor*, chap. 20; and Hunter, *Poverty*, chap. 1 *passim*. In Appendix C of the same volume Mr. Hunter estimates the current wages of this class.

example[11] of an attempt to average a bushel of potatoes and a pound of butter. Mr. Bowley illustrates[12] the worthlessness of such an average by showing the absurdity of an average income derived from the incomes of a group which included millionaires and ordinary workingmen. Here the millionaires' incomes, as Mr. Bowley points out, are given undue weight and importance, for "a single millionaire can counterbalance thousands of ordinary workingmen." The difference is only one of degree, when it is attempted to average the incomes of highly skilled and unskilled laborers; in either case the resulting average is a meaningless term. When, however, an average is taken of the wages of laborers of the same grade of skill — where there are no marked differences between the highest and the lowest wage — the objection to the other averages is no longer valid, since no extremes are present which can be given undue weight. It is believed, then, that a series of averages of the wages of unskilled labor for a long period of years will furnish information regarding the condition of this group of wage-earners, and will, at the same time, show the correct movement of wages in this class.

The first test of the value of any study of wages must be the reliability of the data on which it is based; for if the facts are not trustworthy, a study based on them is obviously useless. It is precisely for this reason that it is so difficult to arrive at satisfactory conclusions respecting the trend of wages. "It is commonly said," writes a competent English statistician, "that the material for wage statistics is conspicuous by its absence, and most authors who need such figures to illustrate other subjects are content to quote one or two estimates covering a very small part of the field."[13] The question to be considered, then, at the outset of such a study as this is the character of the data available for a study of the wages of unskilled labor in the United States. In the first place, they can be found only in government publications. Valuable wage statistics must be collected from *bona fide* pay-rolls, and can be obtained on any adequate scale only through

[11] Mayo-Smith, "Wage Statistics and the Next Census," *Quarterly Journal of Economics*, Vol. II, p. 399.

[12] A. L. Bowley, *Elements of Statistics*, p. 125.

[13] A. L. Bowley, *Wages in the United Kingdom*, p. 10.

official investigations. American wage statistics are found chiefly in (1) the Federal Census, (2) the publications of the Department of Labor, (3) the reports of the Bureaus of Labor and Industrial Statistics in many of the states, and (4) the well-known report made in 1893 by the subcommittee of the Senate Committee on Finance—better known as the "Aldrich Report."[14] All of these statistics have already been carefully described and criticised by Professor Bullock,[15] but it seems necessary for the sake of completeness to give a brief discussion here of each of these sources of data.

The data furnished by the Census from decade to decade differ widely in value. They are (1) the statistics collected in connection with the Census of Manufactures, (2) some data on wages in special occupations for the year 1860, and (3) two special reports, the one prepared by the late Joseph D. Weeks for the Tenth Census, and Professor Dewey's recent report for the Twelfth. The wage statistics given in the Census of Manufactures from time to time are of very limited usefulness indeed—in fact, their chief value is to furnish estimates of the "labor cost" in manufacturing industries, and in the Seventh and Eighth Censuses the statistics are tabulated, not as "wages," but as "cost of labor."[16] The facts are never given us at first hand, but instead

[14] While these are the most important collections of data, mention should also be made of the work of the Department of Agriculture in collecting statistics of farm wages. See especially *Bulletin No. 26*, Miscellaneous Series, U. S. Department of Agriculture, which summarizes the results of twelve statistical investigations. In recent years statistics of the wages of railway labor have been published in the *Annual Reports on the Statistics of Railways in the United States*, which are prepared by the statistician of the Interstate Commerce Commission.

[15] See the two very valuable articles, "Contributions to the Study of Wage Statistics," *Publications of the American Statistical Association*, Vol. VI, pp. 187–218, and "Wage Statistics and the Federal Census," *Publications of the American Economic Association*, New Series, Vol. I, pp. 342–68, which together cover the whole field very thoroughly. His special criticisms of the Aldrich Report and of other collections will be referred to in the proper connection.

[16] See *Senate Executive Documents*, Thirty-fifth Congress, Second Session, No. 39, which gives the Statistics of Manufactures for the Seventh Census, and also the *Eighth Census of Manufactures, passim*. The *Seventh Census*, p. xxiv, gives the following in its directions to enumerators, Schedule 5, Nos. 10 and 11: "Ascertain the average monthly amount paid for all the labor of all the hands, male

estimates of the average wage are given only for the single year in which the census was taken. This average was obtained by dividing the total amount paid out in wages by the number of employees, and, though commonly taken to represent the average wage, in reality "represents nothing but the result of the division of one number by another."[17] Such an average obviously could be compared from decade to decade only if the same methods were used in obtaining both dividend and divisor. The dividend is a comparatively easy figure to obtain, but it is almost impossible to find out what is to be considered the number of employees for the year. In the last census it was said that, "on account of the varying number of employees in a manufacturing establishment during a given year, due to change of employment and to seasonal trade conditions, it is becoming more and more difficult to establish a statistical term which will accurately represent the number of wage-earners to be used as a divisor.[18]" In fact, the method of obtaining the divisor has varied very greatly from census to census,[19] and as a result the directors of both the Eleventh and

and female, employed in the business or manufacture during the course of the year . . . . so that *cost of labor* is always to mean the amount paid, ... and the average number of hands and the average monthly wages are to be returned so that by dividing the latter by the former the result will show the average earnings of individuals." The *Twelfth Census* (Vol. VII, pp. cxi–cxii) is authority for the statement that "the figures obtained by the Census Office are essentially a labor cost, and the problem is to show the extent to which this labor cost can be identified with the 'rate of wages.'"

[17] Joseph D. Weeks makes this statement in his account of the wages paid in the glass industry in 1880 (*Tenth Census*, Vol. II, p. 6). Mr. Weeks says further: "The only circumstances under which a division of the total amount of wages received in any industry by the total number of men employed in that industry would be a correct statement of the earnings of the persons so employed are when the same number of men were employed during the whole year, and when, if the works were idle during any part of that year, the men were also idle, glass-making being their only occupation."

[18] *Twelfth Census*, Vol. VII, p. cxi.

[19] In the Seventh and Eighth Censuses the means of enumeration were exceedingly faulty, and the results were merely the vaguest estimates. In the Ninth, General Walker's first census, the average was as nearly correct as such an average could be made under the bureau as it was organized at that time. Radical changes in method were made in the Eleventh Census. The schedule was altered because it was thought that "the tendency of the questions used in 1880 was to obtain a number of employees in excess of the average" (statement of

the Twelfth Census of Manufactures have publicly called attention to the fact that these statistics must not be used to compare wages at the two different years.[20] Even if there were some method of obtaining an estimate of the divisor, there are two further objections to this average wage. First, because the average is too general; it represents all grades of labor and all sections of the country, and cannot be largely useful for this reason;[21] and, second, there is the further objection to the census statistics that they represent only the one census year, and that the real trend of wages can be shown only by wage statistics compiled annually. The wage-level during the last decade was practically the same in 1890 and 1900, though there is no question of the fall in wages after 1893; and while a line charted to show the real trend of wages for the decade would be in the shape of an inverted pyramid, it would be almost straight if charted for the decennial average.

There are then, to summarize, three objections to this average wage:[22] (1) The methods of obtaining it have varied so widely

Colonel Wright quoted in *American Journal of Sociology*, Vol. III, p. 360). In 1900, just a decade later, it was pointed out that the 1890 average could not be compared with the 1900 average, owing to the fact that a large number of general superintendents and managers were reported in 1890 in the wage-earners' class, and that the canvass of 1900 was made with greater thoroughness than in previous years and caused a large increase in the number of wage-earners receiving low wages, and thus lowered the average (*Twelfth Census*, Vol. VII, p. cxv). "It may be said that upon a matter of such importance it is the first duty of census officials to preserve a basis of exact comparison; but the sufficient answer, in the present instance, is that the obvious inadequacy of the schedules and methods of 1890 made necessary the changes" (*ibid.*).

[20] Mr. Stewart, in the *Eleventh Census* ("Manufacturing Industries," Vol. I, p. 14), said: "A comparison of the average annual earnings for all classes of employees as obtained from the reports of the two censuses is impracticable." Mr. North in the *Twelfth Census* (Vol. VII, p. cxvii) said: "Considerations of this character justify the Census Office in affirming with all possible emphasis that the attempt to obtain the average earnings from the census figures, or to establish a wage-mean at the several census periods, through the use of these statistics is a false use of them, and is not justified under any circumstances."

[21] The fact that this average is supplemented by averages from different industries and for different states makes it more valuable, but even then its use is very limited.

[22] For other criticisms of the census "average wage" see W. M. Stewart, *Publications of the American Economic Association*, New Series, Vol. I, p. 321;

from census to census that the average for one year cannot be compared with the average for another. (2) Such an average is a term so general, representing, as it does, all grades of labor, that it can furnish no definite information in regard to the condition of the laboring-classes. (3) Statistics collected only for one year in every ten cannot show the true movement of wages, for the greatest changes in the wage-level may not come during the census year, and are consequently overlooked. Such averages belong in Mayo-Smith's category of wage statistics which furnish "material for social polemics rather than social philosophy;"[23] and certainly the director of the last Census of Manufactures was right when he raised the question "whether the knowledge that the result is faulty in the first place, and of doubtful utility in the second, ought not to exclude such averages from the census altogether."[24]

There have been a few happy exceptions to the generally unscientific treatment of wage statistics in the Census of Manufactures which should be noticed even though they are not useful for the purpose in hand. The first of these is the attempt at classified wage tables in 1890.[25] Here the method was one of proved scientific value, as it gave, instead of a single general average, the numbers of laborers in each industry to be found within certain wage limits, so that it would be possible to see what proportion of the employees were receiving different rates of wages. The returns, however, were not complete enough to warrant generalizations from them, since no adequate provision had been made for carrying on an investigation of such scope. Since in any event we have tables only for one year, they could not be used in a study

and in the same volume Professor Bullock's article, before cited, pp. 342–68. See also comments in the *Eleventh Census*, "Manufacturing Industries," Vol. I, p. 14; and Mr. North's very thorough criticism in the *Eleventh Census*, Vol. VII, pp. cxi ff.; Mayo-Smith's article on "Wage Statistics and the Next Census," *Quarterly Journal of Economy*, Vol. II, pp. 392 ff.; and an article by the present writer in this *Journal*, Vol. XII, pp. 340, 341.

[23] *Quarterly Journal of Economics*, Vol. II, p. 390.

[24] *Publications of the American Economic Association*, New Series, Vol. I, p. 299.

[25] Published in Part II of the "Report on Manufactures" in the *Eleventh Census*.

which involves a comparison of wages for different years.[26] In the Tenth Census also some interesting attempts were made to find a more satisfactory treatment of the statistics of wages. In Mr. Swank's "Report on the Iron and Steel Industry,"[27] instead of merely giving the average wage, tables were compiled which distinguished between the average day's wages for an ordinary laborer and the average day's wages of a skilled mechanic for the census year, and in the accompanying text an attempt is made to estimate the average daily wages of skilled and unskilled labor in different sections of the country — also, of course, for the census year only. In the same volume Mr. Weeks attempts an occupational classification for wages in his "Report on the Glass Industry,"[28] and in his later "Report on Coke."[29] The various classes of employees are given, the number employed, the "range" of wages — that is, the highest and lowest wages paid — and the average wage — statistics which furnish very valuable information for the census year, but which, since the same plan was not followed during other years, cannot be used to show the changes in wages from one period to another. It may, then, be said in all fairness that the Census of Manufactures has given us no wage statistics that can be used in tracing the movement of wages through a series of years. The average wage is thoroughly unscientific, and the other statistics, which are more valuable in themselves, are given only for a single year, and cannot therefore be useful for purposes of comparison.

There remain to be considered, then, the special reports and the statistics of average wages in special occupations which were among the returns in 1860. The latter can be dealt with very briefly. The average wages for four occupations[30] in the differ-

[26] Classified wage tables are certainly never as useful for purposes of comparison as they are to show the distribution of the wage-earning class as to incomes in any given year. This point is discussed more fully later on in connection with the Dewey Report.

[27] *Tenth Census*, Vol. II, pp. 745–68. Cf. also *Eleventh Census*, "Manufacturing Industries," Vol. III, pp. 134, 206, 228, 298, 338.

[28] *Tenth Census*, Vol. II, p. 1044. [29] *Ibid.*, Vol. X, Part II.

[30] Farmhands, day-laborers, carpenters, and "female domestics." — *Tenth Census*, "Mortality and Miscellaneous Statistics," p. 512.

ent states and territories are given, but they are very crude estimates that cannot be trusted to furnish any reliable information regarding the incomes of those occupations in the census year; and since there are no similar statistics in other censuses, they cannot, of course, be useful in computing the movement of wages.

Passing on, then, to a discussion of the two special reports, we find data of very great value for many purposes. For the Tenth Census Mr. Weeks prepared "the first great report giving wage statistics for a long period." [31] He collected from several hundred factories the average wage paid to each class of employees on their pay-rolls for the entire period covered by the records — in some cases fifty years. The objections to this collection of data may be summarized as follows: (1) The facts are never given at first hand. Instead of the actual rates of wages paid, an average wage is quoted for the different occupational groups in each establishment. (2) The method of computing the average is not given, nor is there any evidence to show that the same method was used by all the agents. (3) The number of employees is not given,[32] and no way, therefore, is open for determining the importance of any quotation. A weighted average for any group of wage-earners can obviously never be computed.

Aside from any criticism of the data, the report as a whole is open to the very serious objection that no conclusions are drawn

[31] Carroll D. Wright, *Bulletin de l'institut international de statistique*, Vol. VIII, p. 109. The report is Vol. XX, *Tenth Census*. For interesting criticisms of Mr. Week's work see also Mitchell, *op. cit.*, p. 377; Bullock, *op. cit.*, p. 351; and Mayo-Smith, *op. cit.*, pp. 396 ff.

[32] This omission was doubtless due to the impossibility at that time of carrying on an investigation of wide enough scope to include all of the important facts. Certainly the transcription of actual pay-rolls was not possible with the force then at the command of the bureau. That Mr. Weeks understood the importance of having the number of employees given is evident from the reports on special industries, which have already been referred to, and which were made for the same census. In connection with his report on the manufacture of glass, he says: "It is very easy to give an average of the different rates of wages paid; but to get at the real average rates — i. e., an average which shall consider not only the several rates, but the number of men employed at each rate, by a consideration of both of which the average rate can only be reached — is more difficult." — *Tenth Census*, Vol. II, p. 1044.

from these statistics. No summary of any kind is attempted, and the data remain a vast array of facts which have never been averaged or classified to make them throw any light whatever on the question of wages.[33] It is the statistician's work to show the significance of the data as well as to collect and tabulate them. Indeed, it is the statistician alone that can be trusted to draw intelligent deductions from them, and it is he, and not the layman, who must interpret them.

The other special report was prepared under Professor Dewey's direction for the Twelfth Census,[34] and is much more valuable from the point of view of statistical method. Unfortunately, however, it contains data only for two years — those at the beginning and end of the decade — so that it cannot be of service in an attempt to follow the movement of wages over a long period. The volume was designed "to promote a definite termination of the question whether wages have tended to increase or decrease during the decade."[35] When it was discovered that the average wage computed for the Census of Manufactures in 1900 could not be compared with the average wage in the Eleventh Census,[36] provision was made for a special report which should collect new data for both the years 1890 and 1900 — another open confession from the census itself of the failure of the wages statistics in the Census of Manufactures to show the real change in wages for the decade.[37] The preparation of the report was put in charge of an expert statistician, and the result is a valuable and thoroughly scientific contribution to the collection of American wage statistics. In criticising this volume, it must be borne in mind that the primary requisites of a collection of wage statistics are two: (1) the facts — that is, the actual rates of

[33] Mayo-Smith, *op. cit.*, p. 396, criticises the report severely for this reason. "It is," he says, "impossible from this volume to say anything about the income of the men in the manufacturing industries of the United States. From the point of view adopted in this article — namely, that the chief interest of wage statistics is social — the volume is a failure."

[34] Davis R. Dewey, *Employees and Wages* (Washington: The Census Office, 1903).

[35] *Twelfth Census*, Vol. VII, p. cxxv. [36] *Supra*, notes 19 and 20.

[37] For statements from the census on this point, see note 20.

wages paid and the number of persons to whom they are paid — must be given; and (2) there must be a satisfactory summary of the results. It has already been pointed out, in connection with the Weeks Report, that to anyone save the statistician the quotation of the actual rates is merely a hopeless array of figures, and it is for statistical method to find some simple expression which will reflect the truth contained in all the figures, and thus enable the mind to grasp their significance. Three methods have been devised for accomplishing this result — the classified wage table,[38]

[38] The form of the ordinary classified wage table is given below.

Rates per Week	Number	
	1890	1900
Less than $2	..	..
$2.00 to $2.49	7	5
$2.50 to $2.99	13	13
$3.00 to $3.49	6	4
and so forth		

the average, and the median, or median and quartiles. In the Dewey report we have, instead of the facts,[39] a series of classified wage tables — which is really only one method of summarizing the facts. In this case, however, the tables are too detailed to serve the purpose of a summary, extending, as they do, over nearly eight hundred pages, so that they are useful only as a substitute for the actual rates. The report also fails to fulfil

[39] Professor Dewey himself acknowledges the superiority of tables of actual rates, but points out some practical difficulties, in particular that of expense, that are in the way (*Employees and Wages*, p. xviii). It seems almost superfluous here to discuss the advantages of tables of rates of wages actually paid over the classified tables. The latter show the actual distribution of the laboring classes within certain wage limits, but they conceal some very important facts. Even when the unit of division is as small as 50 cents a week, the tables may show the same number of laborers in the same wage group, when wages have really been reduced. For example, the thirteen laborers in the $2.50–$2.99 class in note 38 remain in the same group for two different years, but the wages of all may have been reduced 49 cents a week, and such a reduction often means, in the unskilled class, a decrease of 5 per cent. in the week's income. The Dewey tables give us a close approximation to the actual rates, but the fact remains that they do not tell us the exact wage of a single employee in the United States. Classified tables can always be derived from tables of actual rates, but if the former alone are given, the latter can never be obtained. For further discussion of this point, see an article by the writer in this *Journal*, Vol. XII, pp. 345 ff.

exactly the other requisite of a thoroughly adequate collection of wage statistics: it does not furnish an adequate summary of results. The summary which is given attempts to make a brief comparison between the two years by using the median and quartiles.[40] Like the tables of classified rates, the median has, when supplemented by quartiles, the advantage of showing the distribution of the working classes about certain wage limits. For purposes of comparison, however, the median and quartiles are quite inferior to the average, since it is obviously easier to obtain definite results by comparing a single expression for each year than by comparing three. The tables in the summary will illustrate the futility of attempting to draw any conclusions from a comparison of three different points on the wage scale. More often than not the median and quartiles do not show the same change. Sometimes when the median indicates an increase, one quartile indicates a decrease, and the other no change; or when the median shows no change, one or both quartiles show an increase or decrease; and when the three terms do agree in showing the same change, they frequently do not show the same rate of change.[41] The textual analysis accompanying the tables does not give any more definite statements, and, on the whole, it may be fairly said that the report fails to give any positive information regarding the trend of wages during the decade.

While the Dewey Report may fall short of the ideal that

[40] That is, for the most important occupational groups in each industry the employees are arranged according to their wages, and the wages of the middle employee (the median) and of the employees one-fourth and three-fourths of the way up the wage scale (the two quartiles) are quoted. Within the limits set by the two quartiles are the wages of 50 per cent. of the laborers in this group. When the wages of the employees one-quarter, one-half, and three-quarters of the way up the wage scale are known, the condition of the group is very well explained. The advantage of the median, according to Professor Dewey, is that "employees at exceptional rates, either low or high, are not given an undue weight or importance as they are when the average is used" (*Employees and Wages*, p. xxvii). But it must be emphasized that the average that is defended in this paper is an average for a group in which there are no extremes to be given undue weight.

[41] In the article in this *Journal* before referred to (Vol. XII, p. 352) I constructed a table of results from the first of the tables in Professor Dewey's summary. In only seven cases out of twenty did the median and quartiles all point to the same result.

should be set in the matter of wage statistics, it is, nevertheless, the best report of the kind that has ever been published.[42] Its most conspicuous merits may be summed up as follows: (1) The wide scope of the investigation, the returns representing thirty-four industries and 720 establishments, many of which had more than a thousand employees. Data from so wide a field are, of course, presumptive evidence of the value of the generalizations drawn from them. (2) In the wage tables there is an occupational classification as well as a classification according to rates,[43] so that it is possible to compute the change in the wages of different occupational groups. (3) The unit of division for the wage groups is very small,[44] so that we are given the nearest possible approach to the actual rates of wages short of the actual rates themselves. (4) A valuable "establishment comparison" by which it is possible to show the "sort of changes that have taken place between 1890 and 1900 in individual mills and factories, and the relation of these changes to the general course of wages during the decade."[45]

When all has been said, however, as to the merits or defects of the report, the fact remains that, although it contains exhaustive and valuable data for the first and last years of the decade, it cannot be useful in a study of this sort which attempts to follow the movement of wages year by year for more than half a century.

To conclude this discussion of the census wage statistics, it may be said finally that the Weeks Report is the only volume of

[42] It seems hardly fair to compare the Dewey Report with the Aldrich Report, since the latter was an undertaking on a so much larger scale.

[43] This is a point of very great importance, since in many of the classified tables no occupational groups are given. The result is that, while such tables may show a larger number of employees in the lower wage groups in one year than in another, such a change may be due to changes in the manufacturing process, perhaps to the introduction of new machinery requiring the employment of a larger amount of unskilled labor than before, although the wages in the various skilled and unskilled occupations as such have remained unchanged.

[44] Fifty cents a week, as is indicated by the table in note 38 and the discussion in note 39.

[45] *Employees and Wages*, p. xxiii. This establishment comparison covers pp. 783–1141; see also pp. cv–cxiii.

the census which furnishes data that can be used in computing the wage changes through a long series of years.

Passing on now to the data found in the publications of the Bureau of Labor, the work done by the bureau prior to 1900 can perhaps be best described by a statement taken from one of the department publications.[46] It was said that the department had in its reports "from time to time presented large masses of original wage statistics; but these, being incidental to the general subjects of the reports, have usually been limited to particular periods, industries, or localities." In 1900 the department published as its annual report two volumes of data called *Wages in Commercial Countries*. The character of this report is briefly summed up in the preface: "It is only what it pretends to be — a compilation. . . . . The department disclaims all responsibility for the scientific value of the data compiled, except so far as they are taken from the previous reports and documents issued by it."[47] It seems unnecessary, then, since the most valuable data in these volumes have already been discussed, or will be discussed later in connection with the sources from which they were taken, to give a more detailed account of this report.

In 1898 the department published some statistics of the average rates of wages in twelve cities of the United States for a period of twenty-nine years.[48] The data covered twenty-five occupations, and in almost every city quotations for each occupation were secured from at least two establishments, and "the facts in most instances, in accordance with the rule of the department, [were] taken directly from the pay-rolls."[49] Data drawn from so narrow a field are not a safe basis from which to generalize, but it was thought that a series of averages from these data would be of interest in comparison with averages drawn from other data. These averages will be found in Table XIV, and, as the department itself explains, they are somewhat higher than they would be for the country at large, since they are for the large industrial centers only.[50] A further objection to the statistics in this *Bulletin* is

[46] *Fifteenth Annual Report of the Bureau of Labor*, p. 5.

[47] *Ibid.*, Vol. I, pp. 6, 7.

[48] *Bulletin of the Bureau of Labor*, No. 18.

[49] *Ibid.*, p. 666.

[50] *Ibid.*, p. 666.

that the number of employees is not given with the quotations. Except those contained in this *Bulletin*, the only data for any considerable number of years which the department has furnished are for the period 1890–1903, and are to be found in two *Bulletins*.[51] In 1900, data from 148 establishments, 26 industries, and 192 occupations were collected for the ten years from 1891 to 1900,[52] and in 1904 a very extended investigation was undertaken, the results of which are as yet largely unpublished.[53] A very useful summary of this last collection of data is to be found in *Bulletin 53*. No table was computed here from the data in the earlier *Bulletin*, since those in the later one covered the same period more adequately. Attention may be called here to the fact that the change in wages indicated by this last investigation is different from that of the earlier ones. *Bulletin 18*, for example, shows a decrease of 3 per cent. in wages between 1891 and 1896; *Bulletin 30*, a decrease of 2.07 per cent.; and *Bulletin 53*, an increase of 8.1 per cent. The change shown by the latest investigation is, of course, the correct one, but the question may fairly be raised whether investigations so limited in scope that their results cannot be trusted are really worth undertaking at all.

The statistics that have been published from time to time by many of the State Bureaus of Labor are of little use for our present purpose. To compute the movement of wages with a satisfactory degree of exactness. it is necessary to have quotations for successive years from the same establishment, and, of course, from the same state. It is, for example, quite impossible to make a correct estimate of the change in the wages of day-laborers, if data from Iowa are used for one year and data from New York or Pennsylvania the next. In very few states indeed has the Bureau of Labor compiled statistics of wages regularly enough to enable one to compute the wage movement even in that one state. The methods used in the collection and tabulation of data are often unscientific, and are frequently changed. Moreover, these

[51] *Bulletins 29* and *53*.

[52] These data are published in *Bulletin 29*, and the summary in *Bulletin 30*.

[53] They will be published in the forthcoming *Nineteenth Annual Report*.

methods vary so widely from state to state that it is a hopeless task to attempt to reduce the data to any uniform basis that will make it possible to combine them and make them throw any light on the trend of wages in the country at large, or even in any one section of it. All of this, of course, is far from denying that in some states — of which Massachusetts is a notable example[54] — the Bureau of Labor has done work of proved scientific value, and has collected valuable data relating to wages;[55] but it is none the less true that, as a whole, the statistics furnished by these bureaus render little, if any, assistance in an attempt to trace the continuous movement of wages in this country.[56]

The four volumes of the Aldrich report on *Wholesale Wages, Prices, and Transportation*[57] are our one great collection of wage statistics. On March 3, 1891, a Republican Senate directed its Committee on Finance "to ascertain in every practicable way, and to report from time to time . . . . the effect of the tariff laws upon the imports and exports; the growth, development, production, and prices of agricultural and manufactured articles at home and abroad; and upon wages domestic and foreign."[58] By a fortunate chance, a work that was undertaken for a partisan purpose, and was used upon its publication to serve partisan ends, has become an invaluable source of information to students of economics and statistics. The motives of those who projected the report, and the conclusions which were reached by the committee,

[54] See particularly the Massachusetts reports for 1884 and 1885, in which there are most valuable data which form, in fact, a complete history of wages in that state from 1752 to 1885.

[55] For a more detailed comment on the work of these bureaus, see Bullock, *Publications of the American Statistical Association*, Vol. VI, pp. 198–202.

[56] For detailed criticisms of the work of the state bureaus, see an article by Mayo-Smith on "American Labor Statistics," *Political Science Quarterly*, March, 1886; and Professor Bullock's "Contribution to the History of Wage-Statistics," *Publications of the American Statistical Association*, Vol. VI, pp. 198–205.

[57] *Senate Report No. 1394*, referred to in note 3, *supra*. Two volumes and a half of this report are devoted to wage statistics. A "Report on Retail Prices and Wages from 1889–1891" (*Senate Report* No. 986) was published in 1892, but the former report is the one commonly referred to as the "Aldrich Report."

[58] *Senate Miscellaneous Documents*, No. 59.

have been challenged often,[59] but there has never been any question as to the reliability of the data from which those conclusions were drawn and for which the report is now chiefly valuable. These data were collected by the Department of Labor,[60] but the chief of the department was careful to disclaim any responsibility for "any deductions which may have been or which may be drawn from them."[61] The unanimous verdict of statisticians has been that these data are unimpeachable.[62] They are accurate copies of *bona fide* pay rolls. The facts are placed at our disposal — the number of employees and the precise rates of wages paid — and if the conclusions in the report are questioned, we are not estopped from drawing new ones for ourselves.

The data in the report were averaged under the direction of Professor Falkner, who for the first time applied the "index number" system to wage statistics. The conclusions drawn regarding the movement of wages are to be found in the now famous wage tables in the first volume of the report.[63] In the table for all industries the index number was 100 in 1860, 87.7 in 1840, and 160.7 in 1891 — indicating a rise in wages of 60.7 per cent. since 1860, and of 83.2 per cent. since 1840.

The methods employed in the preparation of the tables have

[59] That the Aldrich Report was partisan in its purpose there is no reason to doubt. In an article in the *Forum* (Vol. XIV, p. 242), written just before the publication of the report, Senator Aldrich uses the latter as the basis of a campaign argument. In this article he says: "To test the accuracy of these allegations (that the McKinley Bill would raise prices and depress wages) was the purpose of the recent exhaustive investigation of the Senate Finance Committee into the course of prices and wages. . . . . Not one Democratic prediction of evil has been fulfilled, not one Democratic assurance of injurious results has been verified."

[60] The wages data extend over nearly thirteen hundred pages. They represent twenty-two industries and eighty-eight establishments. There are in all more than eight hundred wage series, many of which extend back for a period of fifty years.

[61] Carroll D. Wright, *Bulletin de l'institut international*, Vol. VIII, p. 109.

[62] Mr. Bowley says, for example: "They form a mine of information and will be used by many students for many purposes. . . . . My quarrel is not with the facts, but with the deductions drawn from them." — *Economic Journal*, Vol. V, p. 369. See also Mitchell, *History of the Greenbacks*, pp. 280 ff, and Spahr, *The Present Distribution of Wealth*, p. 103.

[63] Aldrich Report, Vol. I, pp. 111–74, "Relative Wages for 52 Years."

been severely criticised by other statisticians, and the tables themselves are not generally accepted as indicating the correct movement of wages. When Mr. Bowley was in search of some American wage statistics which he could use in comparing the rates of increase in English and American wages, he rejected the Falkner tables entirely and laboriously reworked the percentages he desired directly from the table of exhibits.[64] Similarly, when Mr. Mitchell was attempting to estimate the effect of the greenbacks on wages, he came to the conclusion "that Professor Falkner's table of relative wages must be discarded altogether and a fresh table of relative wages . . . . laboriously compiled from the data published in the 'exhibits' of the Aldrich Report."[65] The verdict of the late Charles B. Spahr, who had made a most careful study of the report, was to the same effect — that it was necessary to throw away the work done by the committee's experts and return to the original reports made by the employers, ascertaining from them the aggregate and average wages paid at the dates of the greatest public interest."[66] More recently Professor Adams discarded the Falkner tables,[67] but he preferred to draw his conclusions from other and inferior data, rather than undertake the irksome task of computing new tables from the data in the report.

Before discussing the defects in the Falkner methods, it may be said, by way of summary, that two points seem to be clear regarding the report: (1) that the rate of increase in wages shown by the Falkner tables has not been accepted as the correct

[64] Bowley, *op. cit.*, p. 373. [65] Mitchell, *op. cit.*, p. 282.

[66] Spahr, *The Present Distribution of Wealth*, p. 109.

[67] Adams and Sumner, *Labor Problems*, p. 509. "Beginning with 1860 our record of wages in the United States is fairly complete, and the obstacle in the way of ascertaining their true movement is primarily one of method. In 1893, for instance, the Senate Committee on Finance . . . . made an investigation of the movement of wages and prices between 1840 and 1891, which, so far as the wage movement is concerned, is rendered almost wholly useless by fundamental defects in the method of combining the data. This Aldrich Report . . . . is often cited as authoritative, but it unduly exaggerates the rise of wages between 1840 and 1891, and on this it is necessary to draw our conclusions from other sources which, with respect to the accuracy and amount of the original data, are less satisfactory than the Aldrich Report itself."

rate of increase;[68] (2) that the data given are wholly reliable, and the trend of wages for any or all groups of laborers can be obtained only by computing new tables from the original exhibits.

In the present study new tables have been computed which, it is hoped, will aid those who wish to follow the course of the wages of unskilled labor in the United States. It is believed that tables of this sort will be of more service than a series of such vaguely general estimates as result from averaging indiscriminately the wages of all grades of labor. Attention should, perhaps, be called at the outset to the following points with reference to these tables:

1. Great care has been taken to avoid those defects in method which have rendered the Falkner tables almost useless. The differences between the methods used and the Falkner methods will be noted in a later paragraph.

2. Other data than those in the Aldrich Report have been utilized, one table for the largest occupational group in this class — that of day-laborers[69] — has been computed from the Weeks Report.[70] Other tables are based on data published by the Department of Agriculture[71] and the Department of Labor.[72]

3. The tables represent not merely, as did the Falkner tables, the wages of employees in manufacturing establishments, but also the wages of miners and agricultural laborers.

4. By using data from a variety of sources, more light is

[68] With regard to this point, Professor Bullock's conclusions are also of interest. After studying the report carefully from the point of view of statistical method, he said that, "while a study of the actual quotations will convince the reader that there has been a very material increase in wages in these seventy-five establishments since 1860, it is impossible to accept the computations of the report concerning the rate of increase." — *Publications of the American Economic Association*, Vol. VI, p. 218. There is, of course, another side to the question, but it is undeniably that of a minority. Colonel Wright, for example, says: "In this publication we have therefore trustworthy facts for wages and prices in this country for a period of fifty-two years . . . . and from this report, notwithstanding its faults, one can ascertain, both for specific cases and in general, the true course of wages for the whole period." — *Practical Sociology*, p. 228.

[69] See Table XII, "Wages of common laborers from 1829–1880."

[70] *Tenth Census*, Vol. XX, *supra*, p. 332.

[71] See Table XIII "Agricultural Wages in the United States 1860–1903."

[72] See Table XIV "Wages in Three Unskilled Occupations from 1875–1898," and Table XV "Wages of Common Laborers 1890–1900."

thrown on wages in the country at large than would have been possible had only the data in the Aldrich Report been utilized,[73] since the returns in the Aldrich Report are almost exclusively from the Atlantic seaboard.

5. The table for the most important occupational group has been brought down to 1900 by using the data furnished by the Bureau of Labor.

6. Separate tables have been computed from the data from each source, so that any question as to the reliability of the statistics from any one source will not result in the rejection of all the tables.

7. Tables of money wages and tables of index numbers have both been given. The Falkner tables included only the latter, and while index numbers show whether the wage for one year has increased or decreased in comparison with some other year, it is impossible to learn from such tables what the wage really was at any time — an important fact if information regarding the actual condition of the laborer is desired.

Having explained the general character of the tables, the next step is to point out wherein the methods used in computing them differed from Professor Falkner's.

1. Averages have been taken only for the wages of laborers in the same occupational groups or of the same grade of skill. There are no such averages as those in Professor Falkner's tables, representing the wages of all kinds of labor, skilled and unskilled, and not discriminating between the wages of men, women, and children. This raises again the general question of the value of averages — one which has already been discussed in part in connection with the Dewey summary. It was there shown that some simple substitute for the great mass of individual quotations was necessary, and that for purposes of comparison the average was most useful; as Professor Dewey has expressed it: "The advantage of the average is the ease with which it can be used for

[73] In the Aldrich Report there are returns only from the following states: New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Maryland, Ohio. The report has been criticised for showing the course of wages in but one section of the country. See Mitchell, *History of the Greenbacks*, p. 285.

formulating a statistical proposition in a single number."[74] The well-known objection to the average is that it gives undue weight to extremes, and thus often becomes a misleading term. This is clearly a valid objection to an average wage for all occupations and all industries. The extremes represented by the lowest wage paid in the unskilled class and the highest wage of the skilled workers are so great that an average taken for all is an unreal term which is probably very far from representing the wages of any large proportion of the laboring class. Such an average obviously does not reflect the condition of the great mass of workingmen. Nor is such a term useful for purposes of comparison, certainly not as a means of measuring with any useful degree of precision variations in the wage-level. A marked change in such an average may be due, not to a *bona fide* increase or decrease in the wages paid in any occupation, but to a change in the proportions of skilled and unskilled labor employed. Commissioner Wright once said of such an average: "It is not scientific, but it is indicative of something."[75] The "something" in the case of the Falkner tables is that wages have increased; but certainly the rate of increase indicated by the tables cannot be relied on as the correct rate of increase.[76]

On the other hand, an average of the wages of laborers in any well-defined occupation in which there are no marked differences in skill[77] is a term which fairly reflects the condition of the group as a whole. There are no extremes here which can make the average misleading — a fact particularly true of the unskilled

[74] *Employees and Wages*, p. xxiv.

[75] *Quarterly Journal of Economics*, Vol. VI, p. 178.

[76] Professor Bullock (*op. cit.*, pp. 217, 218) says: "While a study of the actual quotations will convince the reader that there has been a very material increase of wages in these seventy-five establishments since 1860, it is impossible to accept the computations of the report concerning the rate of increase." It is to be noted that Professor Bullock says a study of the data, and not a study of the tables, will show that there has been an increase in wages, so that his verdict would seem to be that the tables are indicative of nothing.

[77] The late Sir Robert Giffen, in calling attention to this point, says: "A good deal sometimes turns upon the composition of the average, upon whether it is made up of great extremes, or whether the individual elements depart very little from the average." — *Essays in Finance*, Second Series, p. 378.

occupations in which the range of wages is very narrow indeed, and no single quotation departs very far from the average. For the same reason, an average for the occupations requiring the same degree of skill is also a good statistical term, and one which represents the condition of a larger group of wage-earners. Even unskilled laborers vary as to efficiency, and it may be that a change in the average is due to a change in the proportions of more or less efficient men employed. If in one year the returns show that three men are employed at $1.50 and two at $2, and the next year there are three at $1.50 and five at $2, while the wages paid for doing a certain kind of work may not have changed, yet here the average will show a slight increase. Similarly the discharge of an old hand and the taking on of a new one may indicate a fall in wages, when the change has in reality been due to what has been called the "personal equation." After all is said, the fact remains that every average is a fictitious term.[78] It may fail to represent the wages actually paid to any single laborer. But the necessity of using some term that will summarize the individual quotations has already been pointed out, and it has likewise been sufficiently argued that for the purpose of comparing wages in any two years the average is the best term yet devised, and that, when taken for a group like the unskilled, in which there are no extremely high wages, it is a valid and valuable scientific term.

2. Instead of simple arithmetic averages, each quotation has been given an importance, in averaging, determined by the number of men actually employed at that rate. When Professor Falkner took a simple average of all of the quotations, it resulted, not, as he maintained, in "giving each an equal weight in the result," but rather, as Professor Bullock pointed out, in an entirely arbitrary method of weighting which gave "to the quotation representing the wages of any single laborer an importance that varied inversely with the number of persons engaged in his branch

[78] Dr. Venn has put this very well in his very admirable paper on the "Nature and Use of Averages," *Journal of the Royal Statistical Society*, Vol. LIV, p. 447: "Every sort of an average is a single fictitious substitute of our own for the plurality of actual values existent in the results which are naturally or artificially set before us."

of employment."[79] That a simple average of all the occupational groups within an industry leads to erroneous conclusions can be easily shown. For example, in the stone industry,[80] if the number of persons represented be quoted with the index numbers, we have the following results:

	1860	1891
Foremen	100 (2 men)	234.8 (9 men)
Quarrymen	100 (267 men)	170.8 (274 men)

Here to average simply the greatly increased wage of nine men and the wages of 274 men obviously produces an incorrect result. It does not give an equal importance to the wages of 283 men, but rather gives a much greater importance to the nine men than to the 274.[81]

[79] Bullock, *op. cit.*, p. 214. This is further explained by the statement that "many of the five hundred wage series represent the wages of a single man, while others represent the wages of groups that include scores and even hundreds of workmen. In averaging the quotations, therefore, it is evident that the importance given to the wages paid to each individual laborer varied inversely as the number of persons included in the series to which he belonged." For further criticisms on the same point, see Mitchell, *op. cit.*, p. 282, and the caustic pamphlet by F. C. Waite, *Wages and Prices*, pp. 13 ff.

[80] *Aldrich Report*, Table 37, p. 163, the index numbers for Establishment 79.

[81] It should, however, in fairness be said that this may be an extreme case, for in Establishment 80 in the same industry we have the following results:

	1860	1891
Foremen	100 (4 men)	157.6 (7 men)
Quarrymen	100 (117 men)	160.2 (195 men)

The fact that there are, however, establishments in which there are marked differences in the rate of increase in the different wage series is a sufficient objection to taking a simple average of them. Further to illustrate this point, a comparison of the different series in Establishment 2, the first in which there are such marked differences in the rates of increase, is of interest:

	1860	1891
Brewer	100 (1 man)	375.0 (1 man)
Cooper	100 (8 men)	185.4 (6 men)
Foreman	100 (1 man)	195.1 (5 men)
Laborers	100 (26 men)	222.4 (41 men)
Teamsters	100 (4 men)	145.8 (10 men)

According to Table 39 of the Aldrich Report, the index number for the whole

Professor Falkner took a weighted average for all industries in addition to the simple average. In this second average each industry was given an importance determined by the number of persons shown by the census to be engaged in it. Such a method of weighting, however, could be correct only if the establishments taken to represent each industry were highly typical ones, and there is certainly no evidence to show that this was the case.[82]

3. The quotations for both January and July, instead of those for either month alone, have been used in obtaining the average for the year. In the exhibits in the Aldrich Report the pay-rolls are copied for two months, January and July, of each year. For the Falkner tables only the January wages were used, except for industries in which the July wages were regarded as more typical, and then only the July wages were averaged. A further difficulty is that the report does not indicate when the July wages were substituted for January wages. Whether this failure to use half of the quotations really made any difference in the estimated rate of increase, it is not easy to demonstrate, but it has needlessly laid the report open to criticisms.[83] In the present tables all of the

establishment was on the basis of 100 in 1860, 224.7 in 1891. These index numbers were, of course, taken from simple averages. If averages had been taken in which each quotation was given an importance determined by the number actually employed at it, the index number would have been only 203.3 instead of 224.7 for 1891. In Establishment 1 the differences in the rates of increase in the different occupations are not so marked, yet even here the increase in foreman's wages is 82.9 per cent., while for laborer's it is 37 per cent. and for woodworker's 28.1 per cent. For the whole industry the Falkner index number for 1891 is 137.9, while, if a weighted average had been taken, it would have been 122.7.

[82] Mr. Bowley thinks there is sufficient proof that the establishments were not typical, when in one industry (Books and Newspapers) the rate of increase in wages in one of the establishments given is 42 per cent., in another 56 per cent., and in still another 47 per cent.— *Economic Journal*, p. 371. Mr. Spahr also calls attention to the fact that many industries were not thoroughly investigated, that "for the metal works and cotton factories the returns covered many establishments and many hundred employees, while for stores the returns covered but one dry-goods store and one grocery, employing together less than thirty clerks." — *The Present Distribution of Wealth*, p. 108. See also Waite's pamphlet, *op. cit.*, pp. 9, 10.

[83] Mr. Waite charges that this tended to exaggerate the rate of increase. He shows, for example, that in the case of bricklayers (Establishment 12) the January quotations showed a 58 per cent. increase between 1860 and 1891, while the

quotations given for the year were used. In obtaining the wages of laborers, for example, an average was taken, according to the method just described, of the wages of all the laborers in each establishment. The question then arose as to the number of employees whose wage this average represented. This was evidently neither the number of men employed in January or in June, but the average of the number employed for the two months.[84] This number multiplied by the average wage gave, of course, the total amount paid out in wages during the year to "laborers" in that establishment. An average was then taken of the wages of "laborers" in the twenty-two establishments employing them, the wage in each establishment being again given its correct importance. In this way all of the quotations were utilized, and it is believed that the method used resulted further in giving to each its true importance — an importance determined by the number of men who were shown by the records to have actually received it.

4. Only the wages of men are represented in the tables. From an economic point of view, the wages of women and children are not affected by the same forces as are the wages of men, and the movement of their wages should be studied separately.[85]

July quotations, which alone were used in the reports, showed an increase of 106.3 per cent.; the wages of quarrymen increased 40 per cent. according to the January quotations, and the July quotations, which were used by the committee, indicated an increase of 70.8 per cent. — Waite, *op. cit.*, pp. 10, 11. Professor Bullock is also severely critical in regard to this point, and his conclusion which follows is certainly a very fair one: "The writer can express no opinion concerning the question whether the January or July quotations are better suited to the purpose of ascertaining the course of wages in occupations where employment is somewhat dependent upon the seasons. Neither can he ascertain the number of series in which the July wages have been followed, and the results of selecting these rates rather than those paid in July. But it seems unfortunate that such an element of uncertainty should have been left in the report." — Bullock, *op. cit.*, p. 211. See also Mitchell, *op. cit.*, p. 281.

[84] This resulted at times in the seeming absurdity of a fractional number of employees, but it is believed to rest on a sound basis.

[85] Mayo-Smith put this very emphatically: "The wages of men, women, and children are entirely different quantities, and are as incapable of addition and averaging as a bushel of potatoes and a pound of butter." — *Quarterly Journal of Economics*, Vol. II, p. 399. Professor Mitchell made separate computations of the wages of men and women for the Civil War period, and the latter showed a relatively smaller increase than the former. See Mitchell, *op. cit.*, p. 301.

Wage series which include the wages of both men and women are also excluded. In such series the proportions of men and women employed vary greatly from year to year. In some years, in fact, no men at all were employed, and in others no women. Such differences would, of course, indicate changes in wages that had not taken place, even when only the wages of men were averaged.

5. The base from which the percentages in the tables of index numbers[86] were computed was not the average for a single year, but an average for the ten years of the decade ending in 1860. Relative wages computed from a single quotation are not as significant as when the percentages are taken from a more reliable base. In the Falkner index numbers average wages for each year were calculated as percentages of the average wage for January, 1860. The two months of the year 1860 which are represented in these quotations were fairly normal. The great disturbances of the year appeared during the late fall and in December.[87] No single year, however, can be trusted to be quite normal. There are always abnormalities in wages in some occupations or industries which are likely to appear in the result and vitiate it. By taking an average for ten years, these abnormalities correct each other and tend to disappear.[88] Index numbers computed from such a base show the movement of wages much more correctly.

[86] A series of index numbers, it seems hardly necessary to explain, means here only a series of relative wages. The base, in this case an average of wages for ten years, is taken as 100, and wages for the other years are computed as percentages of this base, that is, as "proportionately above or below 100." In this way the rise and fall of wages is much more easily measured than from tables of money wages alone.

[87] "The financial crisis in America is in its origin wholly political. Industrially the country has never been so prosperous. Her crops are abundant; the market for them is excellent; trade is sound, though active. Up to a late date advices from the states gave a consistent narrative of steady prosperity. The money market was easy, but not too easy. No one in New York, so far as we can learn, anticipated that a crisis was at hand." — *Economist*, London, December 8, 1860.

[88] The Bureau of Labor, in its new series of relative wages from 1890 to 1903, has taken the average for the years 1890–99 as the base (*Bulletin of the Bureau of Labor*, No. 53). The reason for this is explained in an earlier *Bulletin* (No. 39), in which the base for the index numbers of prices was discussed. "If the price for a single year is chosen [as a base], it is essential that that year be a normal

By way of summary, then, the chief differences between the new tables from the Aldrich Report data and the Falkner tables are: (1) The averages in the former are not "unreal and misleading," because they represent only the wages of laborers in the same occupational groups and of the same grade of skill. (2) Instead of a simple average being taken, each quotation has been given an importance determined by the number of men employed at that rate. (3) The average represents the quotations for both January and July, instead of those for either month alone. (4) All wage series which included women's and children's wages were excluded. (5) An average of the wages for the ten years has been taken as the base from which the percentages for the tables of relative wages were computed.

Passing on now to explain the tables which follow, the first question of importance relates to the occupations which are classed as unskilled. The tables include wages for the following groups: "laborers," teamsters, yardhands, watchmen, "helpers" of all kinds, coal-wheelers, quarrymen, unskilled factory operatives, miners, and agricultural laborers. There are, of course, many other classes of unskilled laborers, but these were the only ones for which a reasonable number of data could be found. That "laborers," yardhands, watchmen, coal-wheelers, quarrymen, "helpers," and agricultural laborers are unskilled will probably not be questioned. There may, however, be some objection to putting teamsters in this class. In Chicago at the present time

one, for if prices are high in the year chosen for the base, any subsequent fall will be unduly emphasized, while, on the other hand, if prices are low, any subsequent rise will be emphasized. Upon examination of the prices involved in this compilation, it was found that a normal condition as regards prices for all commodities was found in none of the years 1890 to 1901. For this reason it was decided that an average price for a number of years would better reflect average or approximately normal conditions, and form a more satisfactory base than would the price for any single year" (p. 231). It would not seem unfair, however, to say that it is at least an open question whether some year from 1890 to 1901 was not quite as normal as the year 1860, though Commissioner Wright would probably not agree to this. See, for an account of conditions in the year 1860, Colonel Wright's address in the *Bulletin de l'institut international*, Vol. VIII, p. 110, and his article, "Cheaper Living and the Rise of Wages," *Forum*, Vol. VI, p. 223. On the same point see the *Aldrich Report*, Vol. I, p. 28.

teamsters' wages are somewhat higher than those of "laborers," but this may be explained by their strong unions, and by the fact, too, that the teamster may be a more efficient man than the laborer and yet not be skilled. Moreover, whatever the condition may be in metropolitan cities today, it seems to be true that from 1840 to 1891 the teamsters in the industries considered were really unskilled men.

A much more difficult question was presented with reference to unskilled factory operatives. Manufacturing processes have changed so greatly during half a century that few occupations have been unskilled throughout the whole period under discussion. For that reason only occupations have been taken which could, during that time be learned by an average person in from one to three weeks.[89] Miners are difficult to classify. Some are skilled, many are totally unskilled, and the data must be carefully studied to discriminate those which should be placed in the unskilled from those which belong in the skilled group.[90]

To follow the movement of wages correctly, it is necessary to have data for each successive year from the same establishments. If wages in one establishment for one year are compared with wages in a different establishment for some other year, a change in rates which is due to different conditions in the two establishments may indicate a change in wages where none has taken place. For this reason no wage series have been used, except in Table IX, which have not furnished continuous records from 1860 to the

[89] Acknowledgment should be made here of the kindness of Mr. Francis H. Silsbee, superintendent of the cotton department in the Pacific Mills at Lawrence, Mass., for answering troublesome inquiries on this point.

[90] That many miners are properly within this class is evident from M. de Rousiers's study of *The Labor Question*, p. 127, from which the following extract is taken: "Miners are recruited . . . . from the least provident, the least capable, the least open to initiative. They are conservative in a bad sense, following meekly along the beaten track, without looking either to the right or to the left. . . . . In this they resemble the skilled workmen in the small trades, whom we have seen clinging obstinately to the past without providing for the future. Often they are even worse, owing to the small amount of scope their work gives to any latent inventive faculties they may possess. The workers in the small trades are often ingenious and on the lookout, and ready to adopt any technical improvements. The miner's work never changes; it does not appeal to his intelligence, and plunges him into routine."

present time. This is not believed to be a point of great practical moment, but it seems wise to eliminate, as far as possible, whatever might be a source of error. That it is not relatively important is proved by Table IX. In this table the averages were taken from all of the data for the various occupations, whether irregular or not. The rate of increase in this table is somewhat higher than that in Table X, for which only regular data were used;[91] but the difference in the two may be explained by the fact that all of the data for "laborers" in city public works were included in Table IX. These data were excluded from Table I and Table X, not because the records were irregular, but because, as will be presently explained, the industry was not a normal one. The rate of increase in the wages of laborers in Table I, when the data from this one industry were included, was more than 10 per cent. greater than the rate of increase shown in the other twelve industries employing "laborers," and their use for Table IX may, entirely apart from any question of irregular wage series,[92] account for the 50 per cent. increase over 1860 that is shown by that table, as against an increase of 44.1 per cent. in Table X.

The distribution of data for the wages of unskilled labor in the Aldrich Report is shown by the conspectus given below. This does not include irregular wage series.

The first eleven tables which are given at the close of this study were all computed from the exhibits in the Aldrich Report. Tables IA and I both represent the wages of common laborers, but Table I is the correct table for this occupation. After studying

[91] The total number of wage series used for Table IX was 171, and for Table X, 133.

[92] By "irregular" wage series are meant series which do not begin in 1860 or before that year, and end in 1891. Where data were wanting only for a few years, it was thought best to use the series and supply the omission in this way: suppose the average wage for 1882 to be $1.50, and $1.65 for 1885, it seems fair to assume that the change — an increase of 15 cents — was gradual, and to distribute the increase along the three years by supplying a wage of $1.55 for the year 1883 and of $1.60 for 1884. Where data were wanting for a period extending over 1860, the increase was assumed to begin in that year. It seemed best to have each establishment represented each year, since the absence of quotations from an establishment in which very high or very low wages prevailed would indicate a fall or rise in wages when none had occurred.

the data for "laborers," it appeared that an unduly large proportion were from the four establishments in one industry — city public works; there were, in fact, many more data from this one industry than from all of the other twelve industries combined. An examination of the two tables will show that city public works

CONSPECTUS OF THE ALDRICH REPORT DATA

I. OCCUPATIONS

Occupations	Number of States	Number Wage-Series	Number Industries
Laborers	9	26	13
Teamsters	4	9	7
Yard hands	2	6	5
Watchmen	7	14	7
Coal-wheelers	2	3	2
Quarrymen	2	3	2
Unskilled factory operatives	5	34	4
Helpers	6	38	4

II. INDUSTRIES

Industries	Number of States	Number Wage-Series	Number Establishments
Agricultural implements	1	1	1
Ale, beer, and porter	1	2	1
Books and newspapers	1	1	1
Building trades	5	10	8
City public works	2	3*	2
Cotton goods	2	19	5
Ginghams	1	5	1
Illuminating gas	3	8	3
Leather	2	8	3
Lumber	1	2	1
Metals and metallic goods	6	44	17
Paper	1	2	1
Spice	1	2	1
Stone	3	6	4
White lead	1	2	1
Woolens	2	17	3
Carriages and wagons	1	1	1
Total	10	133	54

* This does not include the series which were excluded from Table I; see above.

furnished data varying from nearly three-fourths of the total number in 1860, to something less than one-half in 1891. With the system of weighting according to the number of employees, to include the city public works data would be to give an exaggerated

emphasis to the returns from this industry. This industry, moreover, is not a normal one. It is one in which wages are not subject to the ordinary laws of competition. Mr. Ethelbert Stewart, who investigated for the Department of Labor the variations in the rates of wages paid under public and private contract, showed by means of carefully prepared tables that "the highest rates of wages paid to unskilled labor are paid to those employed directly by the municipality or state. . . . . With the exception of Boston, all cities included in this investigation fix the rate of wages paid unskilled labor by city ordinance or, as in the case of New York city, by state law."[93] Professor Commons, after a less exhaustive study of the same subject, came to the conclusion that "the city pays for unskilled labor 20 to 70 per cent. higher wages per hour than that paid by contractors on the same class of work. For skilled labor the disparity is not apparently so great."[94] In the *Report on the Subject of the Unemployed*[95] Professor Dewey gives tables which, he says, show "that the rates of wages are higher where the city is the direct employer; and not only is this so, but the rate is often fixed by the municipal government at a price considerably above what may be called the market rate of labor."

Tables II, III, and IV, which present the wages of yard-hands, watchmen, and teamsters, need no special comment.[96] The data from which Table V was computed appeared in some respects

[93] *Bulletin of the Department of Labor*, No. 7, p. 723. Mr. Stewart says further: "As a general statement it may be affirmed that the public, when employing directly by the day, pays the highest prevailing rate of wages for the shortest day's labor."

[94] *Quarterly Journal of Economics*, p. 435. The data in the *Bulletin of the Bureau of Labor* for July, 1904 (see pp. 896–897) do not seem to support this statement, but it seems fair to accept the judgment of men like Mr. Stewart and Professor Commons on a subject they have carefully investigated.

[95] "Investigation and Evidence in Regard to Conditions of Employment upon Public Works," *Report of the Massachusetts Board to Investigate the Subject of the Unemployed*, p. 37.

[96] The industries represented by Table II are cotton goods, gas, ginghams, leather, and lumber; by Table III, cotton goods, gas, ginghams, metals, woolen goods, white lead, and city public works; the latter were not excluded here, because they did not furnish a large enough proportion of the total number of employees in this class to vitiate the result. Table IV represents the industries of ale and beer, cotton goods, building trades, white lead, stone, spice, and sidewalks.

questionable. At times such extremely low wages were quoted as to lead to the conclusion that children must have been among the employees. The number of employees is irregular, and in one case at least (the year 1869) this indicates a disproportionate increase in wages. On the whole, however, there did not seem to be sufficient ground for rejecting so large a collection of data.[97] Table VI is relatively unimportant, because it gives the wages of so small a group.[98] Table VIII represents the wages of "helpers" of blacksmiths, machinists, molders, bricklayers, boiler-makers, carpenters, and a few other laborers of the same industries.[99] The "blacksmith's helpers" formed the largest group. In Table IX are averaged the wages of the following groups of employees from the cotton industry: card-strippers, pickers, picking-room hands, card-tenders, lap-carriers, balers, lapper-tenders; from the leather industry: whiteners, table-hands, setters-out, cellar-hands, blackers, leach-tenders, limers, and bark-grinders; from the woolen industry: cleaners, fullers and giggers, scourers, washers, waste-sorters, shearers, pickers, yarn-carriers, card-cleaners, card-tenders, and dye-house hands. The selection of these occupations has just been discussed. Tables IX and X have been explained in part. The latter is the final summary table for the Aldrich Report data. As has been said, the averages were obtained by giving each of the eight occupational groups represented an importance according to the number of employees which the data indicated for each. This table is believed to be as correct an estimate as can be obtained from existing data of the wages of the unskilled for this period. It represents only one section of the country,[100] and only manufacturing industries, and it may well be charged that as to these the number of data is not large enough to warrant generalizations. When all this is said, however, it remains true that it is the best that can be done with existing collections of data. Table

[97] The data for this table were all from the stone industry, with the exception of one wage series from city public works.

[98] Only three wage series are represented here. They are from the gas and metal industries.

[99] The industries represented are metals, gas, paper, and building trades.

[100] The criticism has already been made that the data in the Aldrich Report are practically all from the North Atlantic states (*supra*, p. 343 and note 73).

IX was computed in order that the effect of the exclusion of certain data on the general result might be shown. Such differences as there are between the rates of increase in this table and Table X are believed to be accounted for by the presence in Table IX of the excluded data in Table IA. While Table IX shows a larger rate of increase for the year 1891 over 1860 than Table X, the increase for 1891 over the average from 1851–60 is almost the same in the two tables. It should be emphasized that Table X and not Table IX is the correct summary for the wages of the unskilled class from the Aldrich Report data.

In Table XI an attempt is made to follow the movement of the wages of common laborers by a series of averages computed from the data in the special report on wages for the Tenth Census.[101] These data do not, of course, extend beyond the year 1880. Simple averages were taken because the number of employees is not among the census returns. If an index number for 1880, the last year for which an average is given, were computed from this table, using the same base, an average for the years 1851–60, that was used for the index numbers in Tables XVI–XXIV, we should have the following comparison between this table and Table I, the latter giving, it will be remembered, a series of weighted averages for the wages of laborers from other data:

WAGES OF LABORERS

Year	Tenth Census	Table I
Average 1851–60.....	100	100
1880.....	133.6	125.5

Attention may be called to the fact that the index number for 1880 from Table XI is almost the same as the number for that

[101] The Weeks Report, which is discussed above, p. 332, 333. The data represent 70 establishments. Returns were used only for those establishments which furnished continuous records from 1860 to 1880. The distribution of establishments was as follows: (1) as to states — Ohio 6, Missouri 5, Pennsylvania 28, Virginia 1, Illinois 3, Indiana 6, Massachusetts 6, Connecticut 7, New Hampshire 5, Michigan 2, New Jersey 3, New York 10, Georgia 1, Wisconsin 3, Maine 2, Kentucky 2; (2) as to industries — breweries 1, brickmaking 3, cigars 3, flour 3, gas 1, flint glass 2, ice 1, iron and steel 15, iron-mining 1, paper 6, pianos 1, pins 1, tanneries 4, textiles 15, woodworking 13.

year from Table X. That the Tenth Census average shows a greater increase in the wages of laborers than the average for Table X may perhaps be explained by defects in the census data,[102] by the difference in the method of averaging, and by the fact that a large number of these data came from western states where economic conditions were less settled than in the East.

Table XII was computed from Table XIII of the Aldrich Report, the data for which were the result of a special investigation by Mr. Weeks.[103] For Table XII a simple average was taken for the following groups: Wages of anthracite coal-miners in Luzerne County, Pennsylvania, and five different sets of returns for iron-ore miners, including blasters and drillers, in the New Jersey ore district; unskilled laborers in ore-mining at Cornwall, New Jersey; ore-miners in the Port Henry District, New York, and in the Oxford Mines, New Jersey. There is a serious objection to the data in that quotations are not always for the same month, nor are the same number of quotations given for each year. Where wages were given in the form of "piece rates," they were, of course, not used, since it is impossible to obtain day wages exactly from such data. On the whole, the table is of value rather for the additional light it may throw on the movement of wages than for any positive information it may give regarding the miner's income.

Table XIII presents with almost no change the summary average of the wages of agricultural laborers from 1866 to 1902 furnished by the Department of Agriculture.[104] Wages for 1861 were estimated on the basis of a statement made by the department that wages for 1866 were 50 per cent. higher than in 1861.[105] The estimate for 1860 was made on the assumption that

[102] Attention has already been called to these defects, p. 332.

[103] The great mass of the exhibits in the Aldrich Report are included in Table XII. Table XIII (Vol. IV, pp. 1561–72) gives the "Rates of Wages for 52 Years in the Coal, Iron, Glass, and Pottery Industries."

[104] "Wages of Farm Labor in the United States," Miscellaneous Series, *Bulletin No. 26*, U. S. Department of Agriculture.

[105] *Annual Report*, U. S. Department of Agriculture, 1866. In discussing the investigation that had been recently made, it was said: "The result shows an increase of the rates of wages in five years amounting to about 50 per cent" (p. 81).

agricultural wages had at least increased no more than the wages of other laborers in this class, and the wage for 1861 in Table XIII was assumed to be an increase of 1.9 per cent. over the wage for 1860.

Statistics furnished by the Department of Labor were used in computing Tables XIV and XV. Table XIV represents the wages of three unskilled occupations from the data in *Bulletin* No. 18, the result of an investigation made in twelve cities. It has already been pointed out that the averages from such data must be larger than they would be for the country at large, and also that the scope of the investigation was so narrow that the results are not very significant.[106] On the other hand, Table XV is computed from the data in *Bulletin* No. 53, which were obtained by the department's very thorough investigation of last year. The data for common laborers represent 410 establishments and more than 23,000 employees.[107]

Tables XVI–XXIV give index numbers showing relative wages in eight occupations, and a summary for the period 1840–91. The index numbers are given for the period previous to 1850, but they are not considered of great value, since the data for these years are too few for a definite estimate. The base for these percentages, it should be emphasized, is not, as in the Falkner tables, the year 1860, but the average for the decade 1851–60. In the note accompanying these tables a series of index numbers is given for purposes of comparison with the Falkner tables. These were computed from Table X, using the Falkner base, the single year 1860. These are compared below with some index numbers made by Mr. Bowley from the same data for several years during

[106] *Supra*, p. 337.

[107] It will be noted that the average wage for "laborers" for 1890 is $1.37 in Table I, $1.49 in Table I A, $1.57 in Table XIV, and $1.48 in Table XV. The difference between Table I and Table I A has already been explained; Table XIV is based on returns only from the large industrial centers, and the Bureau of Labor has itself called attention to the fact that it is unduly large (*supra*, p. —); Table XV is probably the correct estimate, since it is based on a much larger collection of data than any of the others. But while Table XV doubtless estimates the average wage in 1890 more correctly than Table I, the estimate in the latter is the one to use for purposes of comparison with the earlier years, since it represents the same section of the country and the same establishments.

the period. Mr. Bowley's computations were for five selected industries,[108] Professor Falkner's were for all industries, and those from Table X represent, of course, only the wages of unskilled labor.

	Bowley	Falkner Simple Average	Falkner Weighted Average	Index Numbers from Table X (1860 base)
1860.....	100	100	100	100
1879.....	120	139.9	139.4	125.2
1880.....	124	141.5	143	127.1
1883.....	139	152.7	159.2	139.8
1886.....	139	150.9	155.8	140.7
1891.....	148	160.7	168.6	144.1

In conclusion, the question must be fairly raised: What do these tables show regarding the movement of the wages of unskilled labor during the latter half of the last century? No attempt has been made to average the data from the different sources. Everything has been given that seemed likely to aid in making a final and definite estimate, but the temptation to take an average from all of the different tables for a final summary has been resisted, because they are, as has been pointed out, of very unequal value. A weighted average would have been impossible, since the number of employees is not given in all of the tables, and to take a simple average of such data, giving all an equal importance, would have led to a meaningless result. It seems possible, without such a summary, to draw certain very definite conclusions from the tables as they are. The index number for 1890 in Table XXIV is 148.3, indicating, of course, that the average of the wages in eight unskilled occupations was 48.3 per cent. higher in that year than the average for the years 1851–60. Table XV shows that the wages of common laborers remained practically unchanged from 1890 to 1900. From these two tables the conclusion may be fairly drawn that the increase in the wages of this class from the decade following 1850 to the close of the century was approximately 50 per cent. The wages of miners show an increase of 52.1 per cent. in 1890 over 1851–60. For agricultural

[108] Building trades, metals, cotton, wool, and textiles. — *Economic Journal* Vol. V, p. 379.

laborers no data are given previous to 1860, and the increase must be computed from 1860. In 1899[109] the wages of this class had increased only 4.1 per cent. and computing the wages of common laborers from the same base, using Tables I and XV, we have the following comparison:

	Agricultural Laborers	Common Laborers
1860	100	100
1890	94.8	137.1
1899	104.1	137.5

It is hoped that, at a later date, these tables may be supplemented by others which will estimate changes in real wages. This involves, of course, an extended study of statistics of prices and unemployment. The amount of unemployment is undoubtedly greater in this class than in any other — a fact which the late Charles B. Spahr attributed[110] largely to the moral inefficiency of its members. The great difficulty, however, in the way of estimating real wages for the unskilled is the lack of statistics of retail prices for any considerable period of years. The purchases of this group are made in exceedingly small quantities, and it is, of course, retail and not wholesale prices which concern them.

No attempt will be made here to discuss the significance of the changes indicated in these tables of wages, or to make any explanation of the causes of these changes. An effort has been made to present the facts as fairly as possible. Whether or not the unskilled man has been the victim of the industrial system evolved during the last century is a question on which the facts may be allowed to speak without comment.

[110] *The Present Distribution of Wealth*, p. 102.

[109] The average wage for agricultural laborers is not given for the year 1900.

TABLES I–X[1]

WAGES IN EIGHT UNSKILLED OCCUPATIONS, 1840–91

(Aldrich Report Data)

YEAR	TABLE Ia		TABLE I		TABLE II		TABLE III	
	WAGES OF LABORERS — INCLUDING CITY PUBLIC WORKS DATA		WAGES OF LABORERS — CORRECT DATA		WAGES OF YARD HANDS		WAGES OF WATCHMEN	
	Number	Average Wage	Number	Average Wage	Number	Average Wage	Number	Average Wage
1840.....	21	$0.995	21	$0.995	5	$0.625*	4	$1.10*
1841.....	25.5	1.00	25.5	1.00	6	0.59*	4.5	1.10*
1842.....	26	0.93	26	0.93	11	0.695	11	1.01*
1843.....	19.5	0.92	19.5	0.92	8	0.76	12	0.96*
1844.....	42	0.96	42	0.96	8.5	0.79	13.5	0.99
1845.....	45.5	0.91	45.5	0.91	8.5	0.815	16.5	0.955
1846.....	83	0.89	83	0.89	11.5	0.89	15.5	0.99
1847.....	79	0.89	79	0.89	14.5	0.89	13	0.925
1848.....	94	0.91	94	0.91	18.5	0.89	15.5	0.935
1849.....	211.5	0.91	211.5	0.91	18	0.91	15.5	0.94
1850.....	188.5	0.90	188.5	0.90	23	0.91	16	0.94
1851.....	213	0.91	213	0.91	20	0.905	16	0.97
1852.....	256	0.93	256	0.93	25.5	0.91	18	0.98
1853.....	246.5	0.96	246.5	0.96	30	0.93	23	0.96
1854.....	307	0.95	286	0.93	32.5	0.95	26.5	0.99
1855.....	363.5	0.98	327	0.97	31	0.98	30.5	1.04
1856.....	353.5	0.99	325	0.98	31	0.97	32.5	1.04
1857.....	714.5	1.13	327	0.99	43	0.965	33	1.04
1858.....	1299	1.01	343	1.015	43	0.93	37	1.01
1859.....	2119	1.04	442	1.01	54	1.01	36.5	1.01
1860.....	1906	1.01	472.5	1.01	54.5	1.02	34	1.03
1861.....	1737	0.98	503	1.01	56.5	1.08	38	1.01
1862.....	1413.5	1.02	483	1.02	44.5	1.075	39	1.02
1863.....	1207	1.25	362.5	1.225	45	1.12	39.5	1.06
1864.....	1120	1.56	359	1.41	41.5	1.39	37	1.28
1865.....	839	1.76	263	1.60	47	1.545	38.5	1.44
1866.....	812	1.78	297	1.61	52	1.55	35.5	1.56
1867.....	6405	1.76	302	1.57	61.5	1.585	36.5	1.58
1868.....	597	1.745	340.5	1.60	71	1.49	39.	1.58
1869.....	1179.5	1.85	364	1.65	76	1.58	40.5	1.595
1870.....	1142.5	2.02	335.5	1.62	84	1.62	41	1.57
1871.....	1249.5	1.90	377.5	1.63	78.5	1.54	40	1.63
1872.....	1300	1.84	406	1.63	81.5	1.58	42.5	1.64
1873.....	1262	1.845	410.5	1.635	103	1.56	42.5	1.68
1874.....	1029.5	1.82	408	1.625	72	1.56	44	1.67
1875.....	908.5	1.73	430.5	1.53	65.5	1.43	47.5	1.66
1876.....	888	1.66	373.5	1.44	53	1.39	47	1.63
1877.....	737.5	1.40	341	1.34	47	1.33	47	1.55
1878.....	645	1.33	384	1.27	47	1.29	46	1.55
1879.....	675.5	1.25	378	1.245	60	1.20	38.5	1.50
1880.....	700.5	1.27	468	1.23	55.5	1.26	36	1.49
1881.....	917	1.32	577	1.26	56	1.32	40.5	1.53
1882.....	1023.5	1.43	605	1.29	74	1.33	41	1.55
1883.....	1056	1.45	643.5	1.33	64.5	1.32	39.5	1.52
1884.....	1050	1.46	605	1.34	68.5	1.29	38	1.55
1885.....	1075.5	1.47	596	1.31	71	1.26	35	1.545
1886.....	973	1.47	541.5	1.32	58.5	1.31	37	1.56
1887.....	940	1.47	576.5	1.34	59	1.275	36.5	1.585
1888.....	1016	1.51	592	1.39	52.5	1.28	37.5	1.56
1889.....	931.5	1.50	549.5	1.38	61.5	1.295	35.5	1.60
1890.....	947.5	1.49	585.5	1.37	58	1.32	38	1.57
1891.....	1080.5	1 49	632	1.385	74.5	1.34	39	1.57

* Averages which represented only one establishment are starred.

[1] In all of the tables, except where otherwise specified, wages for the "Greenback period" are given in currency.

TABLES I–X.— *Continued*

Year	TABLE IV		TABLE V		TABLE VI		TABLE VII	
	Wages of Teamsters		Wages of Quarrymen		Wages of Coal-Heavers		Wages of Helpers	
	Number	Average Wage	Number	Average Wage	Number	Average Wage	Number	Average Wage
1840.....	2	$1.50*	....	....	....	....	10.5	$0.91
1841.....	1	1.50*	....	....	....	....	13	0.85
1842.....	2	1.48*	47	$0.86	....	....	11.5	0.875
1843.....	1	1.50*	38	0.67	2	$0.75*	18.5	0.86
1844.....	1	1.50*	149.5	0.78	3	0.81*	25.5	0.935
1845.....	2.5	1.48*	193.5	0.85	4	0.875*	32	0.82
1846.....	2.5	1.37*	109.5	0.96	2	0.97*	23.5	0.85
1847.....	2	1.52*	154.5	0.93	2.5	1.02*	33.5	0.92
1848.....	4	1.365*	132	6.88	2	1.125*	44	0.91
1849.....	6	1.57	158.5	0.89	18	1.28	73	0.99
1850.....	8.5	1.20	201.5	0.88	12.5	1.26	77.5	0.96
1851.....	5.5	1.16	626	0.89	15	1.19	92	0.905
1852.....	5	1.145	530.5	0.90	5.5	1.25	128.5	0.93
1853.....	5	1.155	786.5	0.95	7	1.01	131.5	1.00
1854.....	7.5	1.09	615	1.09	8	0.99	162.5	0.99
1855.....	13	1.07	290	1.07	11	1.06	161	0.995
1856.....	15	1.04	339.5	1.11	10	1.13	189	1.00
1857.....	15	1.07	310.5	1.03	12	1.00	187.5	1.06
1858.....	18	1.10	236	1.06	14.5	1.16	152	1.06
1859.....	20.5	1.075	343	1.05	12.5	1.085	207	1.07
1860.....	21.5	1.13	504.5	1.08	13	0.985	213.5	1.08
1861.....	23.5	1.11	470	1.10	11.5	1.02	242.5	1.13
1862.....	22	1.12	374	1.20	14.5	1.11	235.5	1.14
1863.....	23.5	1.18	343.5	1.41	13.5	1.29	221	1.23
1864.....	21.5	1.35	391	1.46	28.5	1.43	329	1.40
1865.....	24	1.48	357	1.66	20	1.68	268.5	1.56
1866.....	23	1.59	475	1.69	18.5	1.715	258.5	1.65
1867.....	23.5	1.59	657.5	1.64	22.5	1.665	250	1.67
1868.....	22.5	1.62	450.0	1.80	21.5	1.64	213.5	1.72
1869.....	23.5	1.63	915.5	2.17	21.	1.66	269	1.82
1870.....	26	1.65	949	2.11	25	1.72	256	1.85
1871.....	27	1.68	869.5	2.11	26	1.72	249.5	1.77
1872.....	30	1.69	623	2 30	31.5	1.79	280	1.81
1873.....	26.5	1.68	725	2.07	31	1.805	237	1.79
1874.....	25.5	1.70	567	1.97	20	1.64	216.5	1.74
1875.....	27	1.60	423	1.73	27	1.61	208.5	1.68
1876.....	27	1.58	275	1.59	24	1.52	209.5	1.60
1877.....	27	1.54	436	1.35	20	1.51	217.5	1.43
1878.....	28	1.52	354	1.37	25	1.45	221.5	1.48
1879.....	27	1.48	436.5	1.29	26	1.34	229.5	1.42
1880.....	30.5	1.50	516.5	1.32	37.5	1.535	323	1.44
1881.....	32	1.50	511.5	1.38	27	1.60	368.5	1.49
1882.....	34.5	1.51	569.5	1.50	21	1.61	405.5	1.56
1883.....	34.5	1.55	576	1.52	31	1.52	403.5	1.63
1884.....	34.5	1.58	551.5	1.50	23.5	1.47	330.5	1.57
1885.....	36	1.54	497.5	1.47	28	1.47	292	1.59
1886.....	35.5	1.55	529	1.64	27.5	1.47	282.5	1.59
1887.....	33	1.62	502	1.48	24	1.50	313.5	1.54
1888.....	30.5	1.70	490.5	1.53	12.5	1.50	286	1.55
1889.....	34.5	1.69	496.5	1.54	19	1.50	319.5	1.535
1890.....	32.5	1.70	494.5	1.62	23	1.56	338	1.53
1891.....	29	1.69	496	1.62	18	1.51	438.5	1.58

* Averages which represented only one establishment are starred.

Tables I–X.— *Continued*

Year	TABLE VIII		TABLE IX		TABLE X	
	Wages of Unskilled Factory Operatives		Wages of Unskilled Labor — Irregular Data Included		Wages of Unskilled Labor — Summary	
	Number	Average Wage	Number	Average Wage	Number	Average Wage
1840.....	2.5	$0.64*	47	$0.95	45	$0.95
1841.....	4	0.63*	56.5	0.91	54	0.91
1842.....	14.5	0.69	131	0.88	123	0.86
1843.....	12.5	0.65	119	0.81	111.5	0.79
1844.....	14.5	0.64	268	0.84	257.5	0.83
1845.....	14.5	0.62	327.5	0.86	317	0.85
1846.....	18.5	0.67	278	0.92	266	0.91
1847.....	15	0.675	322.5	0.91	314	0.91
1848.....	18	0.70	336	0.90	328	0.89
1849.....	26	0.75	534	0.93	526.5	0.93
1850.....	44.5	0.80	580	0.91	572	0.91
1851.....	51	0.75	1047	0.90	1038.5	0.895
1852.....	54	0.755	1032	0.91	1023	0.91
1853.....	56	0.77	1332	0.95	1285.5	0.95
1854.....	57.5	0.78	1250.5	1.02	1195.5	1.02
1855.....	63.5	0.79	990.5	1.00	927	1.00
1856.....	80	0.85	1075.5	1.03	1022	1.02
1857.....	78	0.85	1416.5	1.07	1006	1.01
1858.....	89.5	0.815	1914	1.01	933	1.01
1859.....	126	0.815	2965.5	1.03	1241.5	1.01
1860.....	116.5	0.79	2910	1.02	1430	1.03
1861.....	112.5	0.82	2736	1.01	1457.5	1.05
1862.....	127	0.83	2311.5	1.055	1339.5	1.09
1863.....	106	0.95	2097.5	1.26	1154.5	1.245
1864.....	117.5	1.10	2193.5	1.48	1325	1.40
1865.....	113.5	1.29	1813.5	1.67	1131.5	1.57
1866.....	124	1.34	1912	1.71	1283.5	1.62
1867.....	120.5	1.34	1915	1.68	1474	1.60
1868.....	131.5	1.31	1638	1.72	1290	1.65
1869.....	132.5	1.33	2809	1.93	1842	1.91[1]
1870.....	160	1.33	2792	1.975	1876.5	1.89
1871.....	173	1.35	2839	1.93	1841	1.87
1872.....	172.5	1.36	2695	1.93	1667	1.88
1873.....	175	1.36	2759	1.895	1750.5	1.81
1874.....	167	1.29	2292	1.87	1520	1.70
1875.....	157.5	1.22	2007.5	1.70	1396.5	1.58
1876.....	169	1.18	1827.5	1.61	1476	1.48
1877.....	163	1.15	1805.5	1.40	1298.5	1.35
1878.....	165	1.16	1631.5	1.37	1270.5	1.34
1879.....	158.5	1.13	1789	1.31	1354	1.29
1880.....	147	1.17	1998.5	1.34	1614	1.31
1881.....	153	1.20	2263	1.385	1765.5	1.355
1882.....	151.5	1.19	2480.5	1.47	1902	1.42
1883.....	155	1.23	2541	1.495	1947.5	1.44
1884.....	144.5	1.24	2436.5	1.49	1796	1.43
1885.....	142	1.18	2375.5	1.48	1697.5	1.40
1886.....	152	1.205	2281	1.525	1663.5	1.45
1887.....	160.5	1.21	2260.5	1.48	1705	1.415
1888.....	156	1.21	2275	1.52	1657.5	1.45
1889.....	138.5	1.20	2226.5	1.515	1654.5	1.45
1890.....	151.5	1.18	2271	1.52	1721	1.47
1891.....	161	1.215	2528	1.53	1888	1.485

* Averages which represented only one establishment are starred.

[1] This large increase over 1868 is an unfortunate result of having so few data. The abnormal increase shown is due to a sudden change in the numbers and wages of quarrymen (Table V) who form a much larger proportion of the total number of laborers in 1869 than in 1868. If a new average is taken, omitting the wages of quarrymen for both years, the increase is 6 instead of 96 cents. The change indicated is not therefore true of wages in general, but is due to special circumstances affecting the wages of quarrymen.

TABLE XI

WAGES OF COMMON LABORERS, 1829–30

(Data from Tenth Census)

Year	Wage	Year	Wage	Year	Wage	Year	Wage
1829	$0.94	1842	$0.83	1855	$0.98	1868	$1.49
1830	1.00*	1843	0.77	1856	0.99	1869	1.52
1831	1.00*	1844	0.90½	1857	0.99½	1870	1.48
1832	1.00*	1845	0.90	1858	0.97	1871	1.49½
1833	0.85	1846	0.86	1859	1.00	1872	1.51
1834	0.90	1847	0.82½	1860	1.03	1873	1.51
1835	0.75	1848	0.85	1861	1.03	1874	1.43
1836	1.37½	1849	0.90½	1862	1.07	1875	1.39
1837	1.75*	1850	0.92	1863	1.21	1876	1.35
1838	1.75*	1851	0.93	1864	1.43	1877	1.26½
1839	0.99	1852	0.94	1865	1.47	1878	1.24
1840	0.875	1853	0.95	1866	1.52	1879	1.25
1841	0.81	1854	0.98	1867	1.63	1880	1.31

*The quotations that are starred represent only one establishment, and are not very significant for that reason. An average from data in the *Report of the Massachusetts Bureau of Labor* for 1885 gives $0.79 for 1838, $0.79 for 1837, and $0.73¼ for 1830 as the wage for this class in Massachusetts.

TABLE XII

WAGES OF MINERS, 1840–92

(Data from Table XIII, Aldrich Report)

Year	Wage	Year	Wage	Year	Wage	Year	Wage
1840	$0.80	1854	$1.06	1867	$1.72	1880	$1.50
1841	0.76	1855	1.02	1868	1.89	1881	1.57
1842	0.82	1856	1.05½	1869	1.98	1882	1.72½
1843	0.80	1857	1.05	1870	1.90	1883	1.57
1844	0.79	1858	0.93	1871	1.85	1884	1.46
1845	0.82	1859	1.06	1872	1.82	1885	1.37
1846	0.84	1860	1.03	1873	2.07½	1886	1.50
1847	0.83	1861	1.01	1874	1.93½	1887	1.61
1848	0.82½	1862	1.09	1875	1.50	1888	1.58½
1849	0.81	1863	1.38	1876	1.41	1889	1.55
1850	0.85	1864	2.02	1877	1.25	1890	1.60
1851	0.89½	1865	1.77	1878	1.27	1891	1.52
1852	0.93	1866	1.63	1879	1.25	1892	1.78
1853	0.96						

TABLE XIII

WAGES OF AGRICULTURAL LABORERS, 1860–1902

(Data from Publications of the Department of Agriculture)

Year	Wage	Year	Wage	Year	Wage	Year	Wage
1860	$0.97*	1879	$0.81	1890	$0.92	1895	$0.81
1861	0.99*	1882	0.93	1892	0.92	1898	0.96
1866	1.49	1885	0.91	1893	0.89	1899	1.01
1869	1.41	1888	0.92	1894	0.81	1902	1.13
1875	1.08						

* Wages for these two years estimated. See p. 357.

TABLE XIV

WAGES IN THREE UNSKILLED OCCUPATIONS, 1870–98

(Bureau of Labor data from Twelve Cities)*

	A	B	C	D		A	B	C	D
	Laborers	Helpers	Teamsters	Average		Laborers	Helpers	Teamsters	Average
	$	$	$	$		$	$	$	$
1870.....	1.43	1.42	1.59	1.48	1885....	1.55	1.53	1.89	1.66
1871.....	1.56	1.53	1.74	1.61	1886....	1.56	1.53	1.92½	1.67
1872.....	1.58	1.56	1.78	1.64	1887....	1.58½	1.54½	1.94	1.69
1873.....	1.54	1.51	1.72½	1.59	1888....	1.59	1.56	1.95	1.70
1874.....	1.52	1.50	1.74	1.59	1889....	1.58	1.56	1.94	1.69
1875.....	1.48	1.47	1.71	1.55	1890....	1.57	1.55	1.95	1.69
1876.....	1.44	1.41	1.71	1.52	1891....	1.56½	1.54	1.95	1.68½
1877.....	1.44½	1.46½	1.79	1.57	1892....	1.55	1.55	1.95	1.68
1878.....	1.45	1.53	1.86	1.61	1893....	1.58	1.52½	1.90½	1.67
1876.....	1.47½	1.54	1.87½	1.63	1894....	1.55½	1.50	1.90	1.65
1880.....	1.49	1.53	1.89	1.64	1895....	1.55	1.49	1.90	1.65
1881.....	1.52	1.54	1.88	1.65	1896....	1.55½	1.49	1.89	1.64½
1882.....	1.53	1.56	1.89	1.66	1897....	1.54	1.49	1.88	1.64
1883.....	1.56	1.55½	1.91	1.675	1898....	1.55	1.50	1.88½	1.64½
1884.....	1.56	1.55	1.89	1.67					

* Wages in gold for the years 1870–78. These averages computed from data in *Bulletin* No. 18 of the Department of Labor.

TABLE XV

WAGES OF COMMON LABORERS, 1890–1900 *

Year	Average Number	Average Wage	Year	Average Number	Average Wage
1890.....	19,386	$1.4811	1896.....	18,701	$1.4420
1891.....	19,748	1.4729	1897.....	18,398	1.4452
1892.....	19,632	1.5086	1898.....	19,837	1.4606
1893.....	18,922	1.5109	1899.....	21,640	1.4850
1894.....	18,162	1.4330	1900.....	23,171	1.4821
1895.....	17,932	1.4353			

* These averages computed from data in *Bulletin* No. 53 of the Department of Labor.

TABLES XVI–XX

Relative Wages in Eight Unskilled Occupations, 1840–91

(In these index numbers 100 = the average for 1851–60)[2]

Index Numbers	Table XVI	Table XVII	Table XVIII	Table XIX	Table XX	Table XXI	Table XXII	Table XXIII	Table XXIV
	General Laborers	Teamsters	Yard Hands	Watchmen	Coal-Wheelers	Quarrymen	Unskilled Factory Operatives	Helpers	Unskilled Labor 8 Occupations Summary
1840	101.5	137.6	64.4	108.9	....	....	80.0	89.2	95.9
1841	102.0	137.6	60.8	108.9	....	....	78.7	83.3	91.9
1842	94.8	135.7	71.6	100.0	....	85.1	86.2	85.7	86.8
1843	93.8	137.6	78.3	95.0	68.8	66.3	81.2	84.3	79.7
1844	97.9	137.6	81.4	98.0	74.3	77.2	80.0	91.6	83.8
1845	92.8	135.7	84.0	94.5	80.2	84.1	77.5	80.3	85.8
1846	90.8	125.6	91.7	98.0	88.9	95.0	83.7	83.3	91.9
1847	90.8	139.4	91.7	91.5	93.5	92.0	84.3	90.1	91.9
1848	92.8	125.2	91.7	92.5	103.2	87.1	87.5	89.2	89.8
1849	92.8	144.0	93.8	93.0	117.4	88.1	93.7	97.0	93.9
1850	91.8	110.0	93.8	93.0	115.5	87.1	100.0	94.1	91.9
1851	92.8	106.4	93.2	96.0	109.1	88.1	93.7	88.7	90.4
1852	94.8	105.0	93.8	97.0	114.6	89.1	94.3	91.1	91.9
1853	97.9	105.9	95.8	95.0	92.6	94.0	96.2	98.0	95.9
1854	94.8	100.0	97.9	98.0	90.8	107.9	97.5	97.0	103.0
1855	98.9	98.1	101.0	102.9	97.2	105.9	98.7	97.5	101.0
1856	100.0	95.4	100.0	102.9	103.6	109.9	106.2	98.0	103.0
1857	101.0	98.1	99.4	102.9	91.7	101.9	106.2	103.9	102.0
1858	103.5	100.9	95.8	100.0	106.4	104.9	101.8	103.9	102.0
1859	103.0	98.6	104.1	100.0	99.5	103.9	101.8	104.9	102.0
1860	103.0	103.6	105.1	101.9	90.3	106.9	98.7	105.8	104.0
1861	103.0	101.8	111.3	100.0	93.5	108.9	102.5	110.7	106.0
1862	104.0	102.7	110.8	100.9	101.8	118.8	103.7	111.7	110.1
1863	125.0	108.2	115.4	104.9	118.3	139.6	118.7	120.5	125.7
1864	143.8	123.8	143.2	126.7	131.1	144.5	137.5	137.2	141.4
1865	163.2	135.7	159.2	142.5	154.1	164.3	161.2	152.9	158.5
1866	164.2	145.8	159.7	154.4	157.3	167.3	167.5	161.7	163.6
1867	160.2	145.8	163.4	156.4	152.7	162.3	167.5	163.7	161.6
1868	163.2	148.6	153.6	156.4	150.4	178.2	163.7	168.6	166.6
1869	168.3	149.5	162.8	157.9	152.2	214.8	166.2	178.4	192.9[1]
1870	165.3	151.3	167.0	155.4	157.7	208.9	166.2	181.3	190.9
1871	166.3	154.1	158.7	161.3	157.7	208.9	168.7	173.5	188.8
1872	166.3	155.0	162.8	162.3	164.2	227.7	170.0	177.4	189.8
1873	166.8	154.1	160.8	166.3	165.5	204.9	170.0	175.4	182.8
1874	165.8	155.9	160.8	165.3	150.4	195.0	161.2	170.5	171.7
1875	156.1	146.7	147.4	164.3	147.7	171.2	152.5	164.7	159.5
1876	146.9	144.9	143.2	161.3	139.4	157.4	147.5	156.8	149.4
1877	136.7	141.2	137.1	153.4	138.5	133.6	143.7	140.1	136.3
1878	129.5	138.5	132.9	153.4	133.0	135.6	145.0	145.0	135.3
1879	127.0	135.7	123.7	148.5	122.9	127.7	141.2	139.2	130.3
1880	125.5	137.6	129.8	147.5	140.8	130.6	146.2	141.1	132.3
1881	128.5	137.6	136.0	151.4	146.7	136.6	150.0	146.0	136.8
1882	131.6	138.5	137.1	153.4	147.7	148.5	148.7	152.9	143.4
1883	135.7	142.2	136.0	150.4	139.4	150.4	153.7	159.8	145.4
1884	136.7	144.9	132.9	153.4	134.8	148.5	155.0	153.9	144.4
1885	133.6	141.2	129.8	152.9	134.8	145.5	147.5	155.8	141.4
1886	134.6	142.2	135.0	154.4	134.8	162.3	150.6	155.8	146.4
1887	136.7	148.6	131.4	156.9	137.6	146.5	151.2	150.9	142.9
1888	141.8	155.9	131.9	154.4	137.6	151.4	151.2	151.9	146.4
1889	140.8	155.0	133.5	158.4	137.6	152.4	150.0	150.4	146.4
1890	139.7	155.9	136.0	155.4	143.1	160.3	147.5	150.0	148.3
1891	141.3	155.0	138.1	155.4	138.5	160.3	151.8	154.9	150.0

[1] See note to Table X in regard to the change in wages shown for 1869.

[2] To avoid a mistaken comparison between Table XXIV and the Falkner summary, in which a different base was used, the following table of relative wages has been computed, using the same base that

TABLE OF RELATIVE WAGES, 1860–91
(100 = average for year 1860)

1860	1861	1862	1863	1864	1865	1866	1867	1868	1869		
100	101.9	105.8	120.8	135.9	152.4	157.2	155.3	160.1	185.4		
1870	1871	1872	1873	1874	1875	1876	1877	1878	1879		
183.4	181.5	182.5	175.7	165	153.3	143.6	131	130	125.2		
1880	1881	1882	1883	1884	1885	1886	1887	1888	1889	1890	1891
127.1	131.5	137.8	139.8	138.8	135.9	140.7	137.3	140.7	140.7	142.7	144.1

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was used by Professor Falkner — the average for the year 1860. This table may be properly compared with the Falkner summary.

THE SOURCE OF FINANCIAL POWER

Complaints against Wall Street are so ancient, common, and persistent that that street is really become a sort of metaphorical wall from behind which the discontented habitually shoot their political game. The more, therefore, that we know about Wall Street, the more are we in condition to weigh judicially these complaints. In principle there is nothing done by Wall Street that is not done in most other money centers, even in those that are quite small. The question is one of degree. Wall Street is the central point where schemes, rightly or wrongly open to criticism, are organized, which are of national magnitude. There is no social institution but stands in need of constant criticism, and it is but natural to select the central ganglion of finance as typical of all the ganglia. One of the most criticised classes of acts is that of dealing in stocks and bonds. With that we have little to do in the present paper. Another and related class of acts consists in the founding of commercial and industrial undertakings by means of the support of great capitalists, financiers, and banks before the securities are put on the market. This side of Wall Street activities is somewhat nearer our quest. The part which the stock exchange plays in the launching of industrial enterprises will come in for merely incidental notice, although that part is very important. New securities, or those of corporations in course of reorganization, are those most dealt in on the exchange. The oldest and best-tested securities are held for investment, and frequently disappear entirely from the stock market.

Our inquiry is as to the source, extent, and nature of the power possessed by the great capitalists and recognized leaders of finance. The inquiry is, of course, entirely abstract. It is not a history of the financial operations of particular persons, but it is an inquiry as to why such men possess and wield their power, and as to the nature of power that flows from the source we may discover.

These men are possessed of a double character: they are partly capitalists and partly promoters. As capitalists they are men of wealth, and as promoters they are men using the wealth of others. We have to inquire into the nature of wealth, as it is understood from the point of view of finance. When one has once reached some conclusion about that, he may draw such further inferences as he chooses as to the moral, political, or economic effects of the fact that they use other people's wealth as well as their own. The fundamental suspicion on the part of the public resolves itself into an inquiry as to whether the magnates of Wall Street are gradually absorbing all the wealth of the country, or whether, again, they are exercising an undue influence over other people's wealth. As already stated, the answer to these pertinent questions necessarily involves a careful study of wealth in the financial sense; and it is hardly necessary to add that when once we have cleared up the question of the nature of financial wealth, the theoretical position of these gentlemen in the financial system of the day will be found to be fairly self-explanatory.

Financial wealth consists in promises and in nothing else. The gold which financiers keep in their reserves is in no strict sense a part of their financial wealth, but is material capital practically convenient in their business, but, on the pure theory of finance, not of the essence of it. The science of political economy has neglected this important branch of theory. Political economy has always been defined as a science treating of material goods alone — their production, exchange, distribution, and consumption. The economist has cautiously limited himself to the following of material goods through their career of utility to man, and to describing in general terms the ways in which those material goods act, as it were, in supplying man's wants. For instance, it is not possible that the income of the different classes of producers should exceed in quantity the total of the goods which their combined efforts produce. Again, it is reasonable to suppose that each class of producers and each member of each class receives as income such of the common products as the efficiency of the class or individual draws to himself; and in such a way

that, if we take the sum of all of the goods that all severally receive, they will equal the common products aforementioned.

This reasoning is legitimate and serves to set off the physical possibilities of economic life in a category by themselves; and this category has been appropriated as the peculiar field of economics. "Orthodox political economy" may therefore be defined as the science of the materialistic possibilities of production, exchange, distribution, etc. Regarded biologically, it deals with the environment of industry. We have here only a science of economico-physical limits. Undoubtedly this is the most fundamental, and hence most important, part of theory. But it is only a part — a static part — of economics. The science should not be satisfied until it has explained the whole of the economic process as a process. Consequently, all systematic works on economic theory devote a portion — an inadequate portion — to the explanation of the other part, namely: What is the economico-technical process by which the goods are distributed? The technical means of production consists of many machines, including the machines that transport goods. The technical means of distribution consists in financial machinery. Without criticising the explanations given by others, I shall endeavor to explain this machinery and its bearings on the question of financial power, by looking at the facts directly and at first hand.

What is the nature of financial wealth? While the theories of value and of distribution treat only of materialistic premises, it is a striking fact that many men of wealth never come in contact with material things. Their subject-matter is entirely immaterial, although they use materialistic terms. The farmer's land, tools, grain, and cattle constitute his wealth. The financier thinks of his notes and bills and stocks and bonds as items of wealth in precisely the same way; whereas really what he possesses is simply promises. Promises and nothing but promises are the alpha and omega of finance. The business of promising is therefore the real object of our study, which is to be a description and a synthesis of promises. Capital is said to be abundant or deficient in Wall Street; this means that promises are abundant or deficient.

Naturally, these promises are not the unclassifiable promises of lovers or politicians, but promises about the goods with which the theory of political economy is concerned. Our inquiry is, therefore, as to how these promises originate, how they change their form and change hands, and how they become a great moral force carrying with them the direction of industrial affairs.

Let us begin with some of the simplest economic promises and observe their history and functions. Bills and notes arise in the course of production of goods. It is sometimes stated that business should be carried on entirely upon cash, and that, if this were done, crises would be avoided. A little reflection will show the impossibility of the proposition. The producer seeks the greatest certainty in his operations. He wants to know that his goods will be sold before he buys the raw materials out of which they are to be made. If he waits until they are manufactured, and then depends upon selling them for cash, he is not sure of selling them at all. If, however, he can obtain a guaranty of some sort that his goods are to be sold, he will go ahead and manufacture. Rather than pay cash, therefore, for his raw materials, he goes to a bank and in effect, by discounting his note, obtains a guaranty of his business sanity, solvency, and dependableness. To be sure, the operation of discount is not ordinarily looked upon in this way. It is said that the manufacturer discounts his note because he has not the ready money, and in order to save the necessity of having a portion of his wealth invested in money. Bank discount is the method of saving a certain amount of material capital. This explanation is also true, and may explain the more personal motive. But from a wider social point of view there can be no question but that the notes of manufacturers form a series of contracts which certify to the amount of production that is going on and afford a measure of that production, and which, when discounted at a bank, receive the sanction of the bank to the belief that the goods are needed and will be sold. It is true that the bank keeps the note and gives in exchange its own demand promises, which enter into circulation. But this exchange of obligations is as truly a guaranty as is an indorsement.

Instead of supposing our manufacturer to be starting in business without any money capital, let us suppose one who has already manufactured one batch of goods. In other words, he has already run through his machinery enough raw material to employ all the machinery from the beginning to the end of the process, and to turn out as much product as it is worth while turning out, if he is to start up his machinery at all. The time taken to produce this amount of goods is a production period. Now let us suppose him, as in the first instance, to be without money and to desire to keep his business a-going. Of course, he must sell the first batch of goods in order to buy a new batch of raw material. Does he sell the first batch for money? Certainly not. He has little object in doing so. Having sold the goods, he takes a note with interest for their price. How long does the note run? Why, for a production period, or until the second batch of goods shall have matured.[1] Then, in case the note is not paid, he is able to make good his guaranty on it as an indorser, he having in the meanwhile discounted the note at the bank in order to purchase fresh materials. If the note had been made for a less time than the period of production, he might have been called upon to pay it before the second batch of goods was finished, and he would have been unable to liquidate. He would not have been in a position to borrow money on goods produced, but would have had to borrow upon his plant — a proceeding obviously unbusinesslike. And if he had taken a note that ran for a period longer than the period of production, he would, in similar

[1] The statement that short-time loans and discounts run for a productive period is one of those untruths which have to be stated in order to demonstrate the truth. The statement is untrue because *no* manufacturer, for example, borrows for a period exactly equal to *his* production period. The explanation is that the market for promises normalizes the loans, within a certain range of business, to a certain time to run. But the businesses in which this paper arises are those having production periods that are not widely different, so that it still holds true that the production periods and the loan period correspond approximately. A rough correspondence, or even a relative correspondence (the notes, e. g., in a particular business being always so many days longer or shorter than *its* production period), is probably all that needs to be proven in an argument as to the economic effect of these financial contracts. The method of argument here employed is that of the "representative firm," rather than that of the "economic man."

case of failure on the part of the maker of the note to pay the bank, be compelled to pay interest for an unnecessarily long period, or would again find himself out of funds because the proceeds of the second batch of goods had been already invested. The conclusion is that commercial paper of this sort must be drawn for a period equal to the period of production.

If we drop for a moment our typical manufacturer and look at industry as a whole, we find that the necessity of a correspondence between the production period and the time that bills and notes run, is still more obvious. Socially speaking, commercial paper forms a complex of contracts which binds together the whole industrial world and gives certainty to the transactions of production and distribution. It is of the highest importance that the exact amount of production be adjusted as nearly as possible to the fluctuations of demand. It is safe to say, indeed, that the mass of these contracts is not made with the final wholesalers, jobbers, and distributers for consumption. On the contrary, they are made between producers of different degrees of remoteness from the finished product, one set selling to another set (the product of the first being the raw material of the second) until, after passing through many independent establishments, which represent successive stages of production, the goods are ready for final consumption. The earlier producers sell to many different lines of industry. The later producers buy their raw materials from many different manufacturers of half-finished products. When we consider the thousands and thousands of different kinds of goods in the way of foods, textiles, buildings, and the various services of lodging, transportation, heating, lighting, amusement, and the interminable maze and criss-cross of business contracts vertical and diagonal through all the depth and breadth of the vast field of supply, it is obvious that this infinitely complex network of production needs to be held in place by some system which shall give to it the utmost certainty compatible with a high degree of flexibility in its adaptation to the fluctuations of demand.

Commercial paper performs this invaluable service; and yet it is never thought of in this way. Commercial paper is looked

upon as a promise to pay so much money; at least, that is the way it is treated in the courts of law. But it must now be evident that, from a broad and social point of view, the essential thing is the contract for production and sale, and not the contract for the payment of money. The slightest knowledge of affairs teaches us that the nominal contract is exacted only in very exceptional cases. How does the giver of the note pay his note when it is due? In cash? Certainly not; nobody exacts that of him. Legally, everybody may do so, but by custom he may prove his solvency by simply liquidating his note according to the unwritten law of merchants. In other words, he substitutes for it the promise of a banker or some other person whose promise is more generally current than his own; or, if his note has expired, he substitutes a new note given for new production, undertaken, however, by another, though not a more responsible, manufacturer or business man. Such a promise is accepted, not by legal sanction, but by the custom of merchants, because of the social utility of such acceptance. The substitution of credit better than your own, or even of fresh credit of another, is really a liquidation, and is final unless some hitch or failure occurs in the series of transactions, in which case a whole row of liquidations, perhaps, must be invalidated and actual money may be substituted.

Thus far we have only shown that business promises bind industry together, so that all private industries are, as it were, melted up into one great social industry. As the complexness of these relations surpasses the imagination, it is also evident that they could not be codified by any socialistic state regulation. Commercial paper constitutes the abbreviated contracts which have this effect of solidarity. It is payable in money and assignable by indorsement. It was not until comparatively recent times that the law merchant was amalgamated into the English common law, which thus at last recognized the validity of such assignments without a formal novation on the part of the promisor. The *practice* of merchants, however, had been of the character indicated from very early times; and not merely is this practice a convenience from the individual's point of view, but it furnishes

an elasticity to the contract system without which the vast modern development of the latter would have been impossible. Let us again take our typical manufacturer as an example. He takes a note for his first bill of goods, and that puts him in funds to buy fresh raw materials and to pay his laborers. He may, indeed, retain that note until it is due, but in practice he is not likely to do so. More probably he will assign the note to the vendor of the raw materials and in that way pay for them. Doubtless the vendor would rather have the note in question, indorsed as it is by our manufacturer, than the latter's own note. The operation of assigning the note simplifies matters, for now there is only one note to be collected, whereas otherwise there would have been two. The vendor of the raw materials may assign the note again for value received, having added his own indorsement, and having thus again effected for society a saving of labor of superintendence.

If we thus follow the history of the note for a time, that document loses its personal character and acquires a social one. It is become a social means of payment. Its value no longer consists in the reliance of an original A on the promise of an original B, but, within quite a range of transactions and for a certain class of business, it is become an unquestioned means of purchase and payment. Going farther, we may imagine that a class of such documents is created. It makes no difference in what sort of a business the particular document was first created, it will pay debts in any business within a customary and habitual range of trades and localities.

Now let us make a different supposition. Suppose that our manufacturer does not pay for raw material with the note, but holds it as an investment until maturity. He then presents it to the purchaser of his wares for payment. Does he expect the latter to pay him gold or other legal tender according to the "nomination of the bond?" Not necessarily. He kept the note for investment, and does not care for dead and useless goods, such as gold or silver. Instead of that, he is glad to accept from the purchaser a note of one of the latter's purchasers, and thus his investment is not interrupted.

But now let us suppose that the note with which we started cannot be paid at maturity. Suppose that our manufacturer does not wish to continue his investment and asks for cash, which the purchaser is unable to furnish. This is strictly a case of business failure, for the contract was to pay legal tender. The debtor, however, may go to some person of wealth accustomed to taking business risks, and, for an extra compensation in the way of interest, may obtain for himself first-rate paper with all the quality of currency that may be desired, and with that he may satisfy his creditor directly or by obtaining cash for the paper at a bank. The last paper or note mentioned belongs to a somewhat different class from the others. For purposes of circulation it is perhaps better, because made by a man having a solid reputation for wealth. But it was not made in the course of payment for goods. It does not, therefore, directly bind a bargain of manufacture and sale. It does not, primarily, cement together the industrial fabric. It is, indeed, made on the strength of the general solvency of a certain party; but it is not quite certain that such a note corresponds to a given quantity of production; and if we take the whole mass of notes made in a given department of commerce, and reflect that among them must be many of the uncertain character alluded to, it must be evident that there is not an exact parallelism between the production of goods and the production of promises. Therefore the whole volume of promises may somewhat exceed in their nominal value that of the initial expected value of the goods of the given production period. There is thus introduced a certain extra elasticity — a certain "extension" credit[2] — into the system of promises. For the theory of prices this elasticity is very important; for since all the promises enter into general circulation and become general purchasing power, it is evident that in short periods, before a corrective can be administered, there will be a decided influence exerted upon prices by promises that are in effect loans and not sales of goods.

It is not necessary, however, that such influence should be

[2] To be distinguished carefully from the normal elasticity involved in a strict parallelism of production and mercantile paper — the rising and falling of the latter *pari passu* with the former.

exerted. But it is not the purpose of this paper to enter into the theory of prices. Our topic is little more than that of the generalization of credit. The falling through of the plans of a manufacturer, his disappointment in making sales, the unexpected concessions to which he may feel himself forced in the matter of wages, the thousand unforeseen contingencies, perhaps outside of his control, perhaps the offspring of his own foolishness or infatuation — all these causes conspire to injure his power of liquidation in current marketable promises. Yet his case may not be absolutely desperate, and the promise that he hires may be no more than a fair equivalent for the value of the goods he is at the time in the course of producing. The "money-lender" gave him credit simply because it was expected that by the ripening of another production period full value would be realized. It therefore still holds true that there is a rough parallelism between goods and promises.

Goods are generalized in the market for goods; that is to say, such products as corn are graded and sold by sample, and, making an allowance for certain fixed differences, corn from one section will make good delivery on a purchase of corn in general at the central market. There are no goods that are not in some sense graded, although not amenable to a technical system of grading like agricultural products. The existence of a market for goods proves that all goods are graded; that is, they acquire a general value. Even land ranges higher in some localities than in others, allowance made for differences in special lots.

The same generalizing process takes place in the case of promises, but in a higher degree. The so-called money market is a market for promises. There promises are graded; they are known as one-name, two-name, three-name, etc., paper; as thirty-day, sixty-day, ninety-day paper; as gilt-edge, first- and second-class, and so on; and yet, making an allowance for fixed differences in each class, we may speak of a general market for paper, in which all negotiable promises are reduced to the simplest terms and to a homogeneous mass. In fact, the differences between different kinds of paper are much fewer than those

between goods. Goods are almost infinite in kinds; but all the promises of the money and securities market could be reduced to perhaps a few dozen different kinds. The reason for this is palpably that the same kind of paper may arise in the production of a vast variety of goods.

We thus arrive at the remarkable conclusion that by the mechanism of the money market the values of all goods, however different in kind, are reduced to an almost homogeneous mass. The whole income of the country, with the exception of the elastic element alluded to above, is represented by the existing mass of commercial paper. It makes no difference in what sort of industrial process each particular promise originated; as promises they are all homogeneous and equal. In paying for a carload of glucose, a purchaser might well use a note that had originated in the industry of iron-smelting, for instance. There is nothing necessarily on the face of the note to indicate in what sort of an industry it arose.

To the economist the utility of excluding everything specific from contracts for production, except the promise to pay money, is entirely different from the utility of the same exclusion as it appeals to the lawyer. The lawyer is called upon only when the contract is broken, and when the old note has not been taken up by a new one. The nice adjustment of industry having been disturbed, a section of it, or a particular business or firm, at least, has found its career interrupted. Its situation is no longer in harmony with the general system, and its future must be worked out by forced liquidation instead of by a customary and voluntary one. The particular business is thrown out of the higher, more psychic, environment to which it normally belongs, and a halt must be called for an adjustment of the threatened or actual injury to the rights of others involved. The forced liquidation remands the temporary conduct of the business to a lower environment. In the courts of law a suit is brought for money; and yet the delicate and professional operations of the law do not result necessarily in a payment of money. In a case of judgment, execution, and sale — certainly in most of the cases where large values are

involved — the purchaser from sheriff or receiver meets with no demand for actual money, but is permitted to pay with a certified check. Thus again it holds true that commercial paper corresponds to transactions in goods, whether forced or voluntary. The generalization and perfect fluidity of commercial paper, even in the case of business failure and consequent obstruction, avoid both inflation and contraction. Commercial paper constitutes — on our supposition, so far at least, for we have hitherto avoided speaking specially of the function of banks — practically the whole circulation of industry. It is created *pari passu* with the creation of goods; it lasts as long as they last; and it is renewed when they are further created. It expresses the pure income of the country in its most general and abstract form.

The banks have hitherto been omitted from our account. As a matter of fact, the banks play a most important part in the generalization of industrial promises. But it was not necessary to mention them up to this point, since they constitute merely a special, additional guaranty institution in the process of generalization. For the purpose of our quest, however, they now step upon the scene as the great means by which individual savings are socialized and put at the disposal of new enterprise. A word, therefore, in the first place, as to the part played by the banks in generalization of credit.

In most cases our typical manufacturer does not pass his contract for the sale of finished goods — his debtor's note — over to his creditor, the purveyor of raw materials. He does not compel his debtor to attorn to his creditor. The knowledge which the latter has of the solvency of other enterprises is not necessarily very extended. He is not satisfied with the confidential information furnished by a Bradstreet's or a Dun's Agency as to the solvency and business standing of persons with whom he has no direct transactions. For the purpose of security the seller of the raw materials requires perhaps a guarantor who will assume the whole risk so that he will not be called upon to make good a loss in the further career of the note. The discounting of commercial paper by a bank is, socially speaking, an operation

of guaranty. It is the banker's business to acquaint himself thoroughly with the solvency of the circle in which he operates. In return for a payment called "interest," he is willing to exchange his demand notes for the time notes of purchasers of goods. Since this operation is purely one of exchange of promises, it can in the normal case neither increase nor decrease the amount of commercial promises in circulation. It therefore affects in no way the parallelism of promises and goods that has already been described, except to render enormously more perfect the process of generalization and socialization of promises. For since the banker is a dealer in promises and a specialist in the business of guaranteeing them, having for the latter purpose a reserve of legal money (and, if the bank be a corporation, a large number of responsible stockholders), his demand promises are much more readily accepted than the time promises of purchasers. Moreover, the time promises for which he exchanges his demand promises remain generally in his portfolio, so that he subtracts from the money market as much as he adds to it; and in case he rediscounts the contents of his portfolio, that operation may well be performed in view of an unusual amount of exchanges of goods, to make which would normally require an additional amount of circulating medium.

But we have sufficiently explained the generalization of promises; and the banker has been introduced, not because of his importance in this matter, but on account of his importance in putting the promises of the community at the service of new enterprise. This weighty function of the banker would be impossible, were it not for the fact that he has at his disposal the homogeneous and generalized promises of industry.

Having shown the method by which promises arising in all sorts of businesses are rendered homogeneous and reduced to one common mass somewhat on the principle of the grading of grain, it would seem but a simple and easy step to say that the banks put these promises at the disposal of the great promoters, and to regard this as a sufficient explanation. But it is far from sufficient. There are a mechanism and a biology belonging to the

process, and without a description of these we are indulging in mere assertion — a mere unproven guess or empirical commonplace.

The profits of mere speculation — that is to say, of holding goods temporarily for a rise — are chiefly a transfer of wealth from one man's pocket to another's. Leaving such profits out of account, let us consider the more normal profits that result from the manufacture of goods, and which accompany the creation of an additional amount of wealth. The specific goods that correspond to the surplus wealth are not set off from other goods — from those whose value is simply sufficient to replace the destruction of raw materials, machinery, and the wear and tear of labor. All goods enter into the special technical processes or the special consumption for which they were designed. The eater of an oyster at Fulton Market has no means of knowing whether that is a surplus oyster or merely an up-keep oyster. The distinction between surplus and up-keep is made, not in the technical materialistic environment of manufacture, but in the psychic environment of finance. The bookkeeping of our typical manufacturer shows at a glance whether he has anything left over. His bank account may show the same thing. Of course, an up-to-date firm does a lot of financing on its own account, without saying "by your leave" to the banks. But, in most cases, a considerable balance is left with the bank. Here again, as in the case of the material goods, it is not possible to say whether the bank balance specifically represents the profits or surplus wealth of the firm. But it is safe to say that a firm that is not making profits will not be able to keep a large balance at the bank. In general it works that way, although sometimes the firms that make the largest profits keep the smallest balances. A bank balance consists of demand debts owed by the bank to the firm — our manufacturer, for example — and originates in the promises of others sent into the bank by him "for deposit," whether sight demands on other banks or discounted time paper, with which he has purchased his own bank's promises. The purchasers of goods, who thus have enabled our firm to make a deposit, were in turn enabled to do so

by deposits obtained at *their* banks in precisely the same way, and so on *ad infinitum*.

These deposits are all shifted about, for they are homogeneous and effect a large mass of the exchanges of society. If all debts were paid off, the deposits would offset each other; in other words, the banks would owe each other as much as they are owed; the business of banking would cease; and hence a most notable receptacle and distributer of modern business profits would disappear. It is because debts are continually renewed by the renewal of contracts of production, that a general mass of deposits unpaid exists. The bank deposits therefore represent the mass of moving indebtedness, so far as that is necessary to keep up the renewal of business and the renewed production of goods, or at least that portion of that indebtedness which it is necessary to convert into the most generalized form known as demand bank obligations.

It has already been shown that this mass of financial promises will be found only in the presence of profitable business. A permanent mass of deposits — not those that are drawn out as soon as they are put in, but those which, in spite of all the drawing out which takes place, still leave a permanent surplus — represents, on the whole, a part of the profits of industry. This plus balance is an average result of the infinite complexity of individual business management. It is not the result of leaving capital idle so much as the result of the rapidity of the accretions. A sort of actuarial average is established. The deposits of no one firm correspond to the average, but the average itself represents the disturbance in the moving equilibrium of industry in favor of a surplus of material wealth. In other words, the surplus of new goods creates a surplus of new promises which are always more than capable of taking up the promises that have run out. These bank deposits then, to a certain extent at least, represent the surplus goods manufactured by society. They do not represent any specific goods, but they normally correspond nevertheless to actual goods, and they amount to a declaration that those goods constitute a social surplus of wealth. Here we find two degrees of generalization: (*a*) the goods themselves are so generalized that

it is impossible to tell which of them represent the specific surplus; (*b*) the promises themselves are so generalized that it is impossible to tell which of them represent specific goods. These promises thus generalized are the very means by which those graded goods are circulated and devoted to a specific use. The promises have been completely dissociated from specific goods in the course of production. In this process they have lost none of their power of purchasing; on the contrary, they have gained enormously in circulating power with the gain in generalization.

Here are present all the conditions for the direction of goods into new enterprises: on the one hand, we have the surplus goods; on the other hand, we have automatically created a corresponding amount of purchasing power, any portion of which may be devoted to the directing of any portion of the goods into a new enterprise. Apparently, it only remains for institutions and persons to emerge upon the scene who shall perform the remaining function of using the promises to direct the goods whither they should go for the highest social economic productiveness.

We are now in better position to make the acquaintance of the promoter. It is well known that the small banks deposit with the larger banks, and those with still larger ones, until the financial center of the country is reached. This system of redepositing holds true, with variations of detail, for every country which possesses a financial system. In other words, a bank, relying on its high actuarial range of deposits, sends on to a more central bank some of the paper which it has purchased with those deposits, and with the paper purchases deposits of its own. While this operation does not reduce the accounts of its depositors, it amounts to the sending of the same grade of credit, since the guaranty of the funds which it sends for deposit to the central bank is precisely the same as the guaranty which gives currency to the deposits of its own depositors. At the central bank the deposit which we have been following receives the sanction and guaranty of that bank. The operation may be repeated now by the latter bank sending to a more central bank, and so on, until the final center is reached. Each redeposit involves an additional guar-

anty, and that means a further and higher generalization of business promises.

The central bank is thus put in possession of promises originating in the commonplace materialistic transactions of manufacture and production which have been reguaranteed and regeneralized repeatedly, and which are now for a time left at its disposal. In them it possesses a power of command over goods that is well-nigh irresistible — a power that can be compared to electric force alone, and which is of the highest tension. Put at the disposal of the stock market, it stimulates speculation in the new industrial ventures that are placed upon that market. Put at the disposal of promoters, these promises launch the new undertakings which absorb the new capital of the country.

We can now understand why these financial promises are called "capital." The fact is that the technical, materialistic capital of the country is an undistinguishable mass in which new and old wealth are inextricably commingled. It is only the financial capital, through the system of the money market, of the banks, and of the process of guaranty and generalization, which is able to sort out the new from the old and to put it at the disposal of enterprise.

We have now emerged from the dark continent of financial organization and have reached plain going. The function of the promoter and his methods of operation are well known and much discussed, and also those of underwriting new enterprises. We do not need to dwell upon them here. They have their good and their bad sides. They represent both the necessity of organizing new enterprises and the demand of the public to be gulled. But it is not the promoter himself that comes directly in contact with the potent current of highest purchasing power. It is in the underwriting or guaranteeing of his projects that the contact is made. The underwriting is performed by banks of the great financial centers, and this means that the projects of the promoters are guaranteed by the persons having naturally under their control the most generalized and highly guaranteed promises, without

which the banks would be impotent and their final and last guaranty would not be worth the paper on which it is written.

Our task is not finished until the investments are made. It is one thing to possess a surplus of wealth and to intend to invest it; it is another thing to make the final investment. The process of underwriting is not a process of investment. Underwriting simply signifies a highly matured stage of the social intention to invest. It enables the project to be put upon its feet as a going concern, but only keeps it a-going for a while. The underwriters are on probation. They have made a venture in the expectation of permanent support. The high-tension promises are at their command only temporarily. The moving of crops, the payment of international indebtedness, a slacking up of business, deprive them of power by withdrawal of balances from the money center. The many times guaranteed deposits may suddenly vanish. The guaranties are withdrawn. The electric current loses its tension, and is reabsorbed toward the boilers and furnaces of industry whence it originally departed.

In order to complete the investment, the securities must be sold, and the first operation is to list them on the stock exchange. The public buys — with what? With deposits. Deposits are withdrawn from banks of every grade, including the primary country banks. This purchase of securities by the public therefore withdraws deposits all along the line, including those upon which the underwriter relied. He is glad to lose his deposits in this way. The original holders of the promises have a string attached to them: they draw their promises back and invest them in the new securities.[3] The financial operation is now complete.

[3] All great financial establishments concentrate and guarantee promises. The chief difference between them and banks, from the underwriter's point of view, is that in their case the original provincial promises are not so easily and directly withdrawn by the original promisees, and thus the public's control of promotion through these establishments is not so efficient as that through banks. Recent developments in connection with a great life-insurance company invite the application of the law of trusts rather than that of banking. The insurance companies, indeed, are said to be great *purchasers* of high-grade new issues, especially those of international character.

Promoter and underwriter have light hearts. They are now relieved of a vast responsibility, which they had assumed temporarily, supported by the mass of fugitive deposits at the money center, but which now is assumed permanently by the public. The public thus advances economic power tentatively to the underwriters and promoters, leaving the responsibility with the latter. A period of probation ensues. If the public approves, it takes over the responsibility definitely upon itself. If it does not approve, they are left to weather the gale with their private fortunes as best they may. In the language of the "Street," they are left "to hold the baby;" and it is the opinion of competent observers that this is what happened in Wall Street during the year 1903.

The deposits have been traded for securities and, with some notable subtractions in the way of commissions, with which we need not concern ourselves, have been passed over to the manufacturers. The latter have used them in the purchase of machinery and materials, and thus at last the surplus materials have passed out of circulation and been incorporated into fixed capital to begin the round of production again, while the deposits can be kept alive in their original amount only in case the production of the new investments justifies that amount of productive promises. The deposits have entered again into the ordinary career of the bank surplus, and will be canceled if their final liquidation is necessary on account of the ill-success of enterprise. The securities now represent in permanent form the deposits with which they were purchased. But if the surplus production of the new enterprise does not correspond to the expected value, the securities, of course, will shrink in their power to purchase present goods. With their further career, however, we are not here concerned. In effect, the circulating goods are now merged into fixed capital, and the deposits are merged into investment securities. If they appear to circulate further, that is because they are supported by further production, and its parallel creation of mercantile paper.

The circulating medium of commercial paper which we first had in mind was short-time paper. Its value was the discounted

value of a *limited* number of future payments — of principal and interest upon it. The securities at which we are now arrived represent the discounted value of an *infinite* series of expected returns. The process of investment therefore is a procss of transmuting short-time terminable present values into long-time present values of the most permanent sort. On its physical side, the process is that of transmuting goods which give returns on a single operation into goods which give returns on an indefinite number of operations. But the latter operations produce new goods, which represent a new surplus capable of starting the original process of investment into motion again.

For financial operations a physical guaranty is always merely incidental. It is well known that the banker guarantees his generalization of credit by means of the cash reserve — in the simplest case a reserve of gold. Coming down farther to the more physical plane of the business of selling manufactured goods, the manufacturer, or his agent the jobber, guarantees his operations with the bank by his circulating capital; and coming down still farther on the physical plane, to the technical process of manufacturing, the promoter and underwriter guarantee their operations with the public by the fixed capital which is represented by the securities sold. Industry therefore is carried on in a succession of environments more or less advanced in the psychic scale from the most technical and physical to the most intellectual and psychic — the purely financial.

The process of financiering, itself the most potent department in the science of economic progress, has thus been presented in what may be called comparatively its most static or normal form. The reader will only too readily suggest aberrations which involve investment in the greatest uncertainty. Nevertheless, the machinery of financiering, whatever may be the results to the investor, works with remarkable safety and accuracy. The persons that launch great undertakings make use of the funds of the saving public from an early stage of their planning. The whole financial system has so developed and evolved as to encourage this method

of procedure. Looked at in this way, the men of finance seem to have been placed at a very important and critical point in a system that has developed spontaneously. Naturally, they are possessed of large private fortunes — small compared with the vast social funds placed at their disposal, but often large compared with those of other people. Here again we find a case of guaranty: it is not to be supposed that the public would make the advances which it does unless it were dealing with a class of persons themselves of unusual responsibility, who, by their wealth, are able to offer guaranty of good faith. Indeed, when irresponsible adventurers seize the helm of enterprise, the matter becomes cause for just complaint and public indignation. If faith is violated, however, it is human nature and extraneous interference, rather than the financial system, which are to be blamed.

Through the mechanism which has been described, the enormous and growing financial power, which has its origin in the production of goods, is gradually disengaged from them, purified, and concentrated by passing through a series of ascending psychic environments, until, reaching the highest financial center, it finishes its career by an imperative act of new investment, and is merged into the permanent form of securities, and through and by them is again associated closely with goods in a new technical process of production. The cycle of the economic organism is full-drawn by the energy of high finance.

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MARGINAL UTILITY AND EXCHANGE VALUE

The Austrian theory derives advantage from conceiving cost as well as product under the aspect of value. Utility is taken as the sole source of value, and a specific function — namely, marginal utility — is made the definite regulator, or determinant of the latter.[1] Cost of production being expressed in terms of value, the various factors enter into the problem under a single category, and thus it becomes a rational undertaking to attempt a definite correlation.

The fundamental thesis, the determination of value by marginal utility once accepted, the remainder seems easy. Value conceived as originating in the product is reflected in a faithful image to the paraphernalia of production.

The opponents of the doctrine have too often adhered to the sacrificial conception of cost, and have essayed to establish an equation between things generically unlike. Interpreting cost of production as personal irksomeness, pain, and the like, they have vainly sought to hold these elusive abstractions up to a concrete standard of measurement. The result has been that able men, although starting with a good working intuition that marginal utility is not the adequate solvent of exchange value, have ill succeeded in conducting their argument with clearness of thought and soundness of logic. For instance, Professor Macvane is led to drawing the inference that, "so far from controlling exchange value, it [marginal utility] is itself controlled by exchange value."[2]

Now, under the hypothesis that exchange value and marginal utility have a common measure, there is no objection to saying that the measure of the latter is determined by that of the former,

[1] "Value" in these Austrian formulæ is, of course, not free from the suspicion of ambiguity, which, if well founded, discredits the results. This paper concerns itself with exchange value only; but, as the Austrian terminology is of necessity largely employed, misapprehension is guarded against by using the full designation wherever the meaning might otherwise be doubtful.

[2] *Quarterly Journal of Economics*, Vol. VII, p. 250.

since, as it happens, exchange value is more directly susceptible of measurement — just as we may say that the length of a roll of cloth is determined by a yard-stick, or by another piece of cloth of known length. But Professor Macvane's argument is that exchange value regulates or controls marginal utility. This is hardly a sane interpretation of the historical sequence. Marginal utility, as well as general utility, obtains before exchange; so that, if there is any causal relation, it must take its rise, at least, in marginal utility.[3]

One of the great exponents of the Austrian view, Wieser, introduces the conception of "natural value" into the discussion. Now, as long as he adheres to that notion of value, there is no fault to be found with his conditioning it in, or indeed identifying it with, marginal utility. Value and utility are synonymous in that conception, each expressing the satisfaction obtainable from consumption goods. Either may be substituted for the other without endangering the coherence of the thought. We may say,

[3] There are cases in which the marginal utility is not free from the influence of exchange value. There is, in fact, a class of cases — namely, luxuries — where the high "cost" enhances "utility." Costly gewgaws are prized more as tokens of affluence, or some kindred sentiment, than for any other species of service. This points to a tributary to the stream of causation. It is a case in which cost of production is an agency in the creation of utility, the influence of the agent being reflected from exchange value, or price, directly to the object of desire, which in turn manifests the effect by an increased capacity for gratification.

If some genius should devise a method of manufacturing inexpensively from coal the genuine diamond — an article that would deceive the expert as well as the ordinary observer — no one would be disposed to deny that the utility of that brilliant would suffer, purely out of consideration of the exchange value or "cost."

"We find things beautiful, as well as serviceable, somewhat in proportion as they are costly. With few and inconsequential exceptions, we all find a costly hand-wrought article of apparel much preferable in point of beauty and serviceability to a less expensive imitation of it, however cleverly the spurious article may imitate the costly original; and what offends our sensibilities in the spurious article is not that it falls short in form or color, or, indeed, in visual effect in any way. The offensive object may be so close an imitation as to defy any but the closest scrutiny; and yet so soon as the counterfeit is detected, its æsthetic value, and its commercial value as well, declines precipitately." — T. Veblen, *The Theory of the Leisure Class*, p. 169.

Still, while we regard as trustworthy the general observation that exchange value is not the regulator of marginal utility, the example tends to show that the causative agency, working out economic effects, is by no means a simple one.

indifferently, "total value" or "total utility." We may use our pleasure also as to "marginal value" and "marginal utility." And if, in any discussion, it is found convenient to replace the former expression with "natural value," there is possibly no objection to that. But thus far we are using a value-concept appropriate to individual economy. "Utility," or "value," in this sense, is a suitable term for service in the calculus of individual pleasure or satisfaction.

But when Wieser enters upon the discussion of exchange value, his admissions seem to stand up in protest against his formal conclusions. Conceding that in practical life exchange value diverges from the natural, he observes that it is largely due to the fault of our systems, so that in a natural economy there would be, at least, a nearer approach to coincidence. Here is the explanation of the present divergence:

> The relation of natural value to exchange value is clear. Natural value is one element in the formation of exchange value. It does not, however, enter simply and thoroughly into exchange value. On the one side it is disturbed by human imperfection, by error, fraud, force, chance; and, on the other, by the present order of society, by the existence of private property, and the differences between rich and poor — as a consequence of which latter a second element mingles itself in the formation of exchange value, namely, purchasing power. In natural value goods are esteemed simply according to their marginal utility; in exchange value, according to a combination of marginal utility and purchasing power.[4]

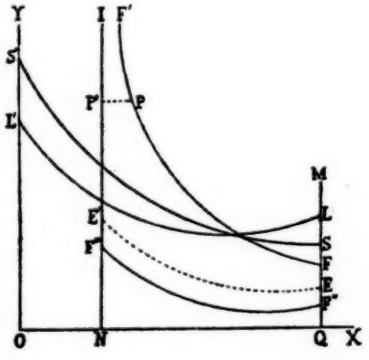
If we should take the above passage as the sole index of Wieser's views on the question at issue, there would be nothing to provoke unfavorable comment, especially as he immediately adds, by way of strengthening the effect: "Exchange value, even when considered perfect, is, if we may so call it, a caricature of natural value; it disturbs its economic symmetry, magnifying the small and reducing the great."

It is the exchange value as we find it in our existing environment that calls for explanation and should engage our study. We are not immediately concerned with "natural economy;" so that, if elements other than marginal utility are found in the exchange value of current experience, the machinery of regulation is not simple, but complex.

[4] *Natural Value*, p. 61.

That there is a disparity between exchange value and marginal utility, so unreservedly admitted by Wieser in the passages quoted, it is the purpose of this paper to emphasize. It will be the aim to show that exchange value never does, and never can, in the nature of things, coincide with marginal utility.[5]

For the sake of simplicity, let us divide utilities into three groups — food, shelter (including clothing), and luxuries. The supply of each group may be measured along the line *OX* (see diagram) from the point *O*. The marginal utility may be measured in a direction perpendicular to *OX*, that is, in the direction *OY*.



Food being the most important of the groups, being indeed absolutely essential to life, its marginal utility evidently will be infinity in the early stages of its supply, or until a quantity is reached that is just equal to the task of maintaining the lives of the social units. Let this quantity be represented by *ON*. Then if *I* be supposed at an infinite distance from *N*, the line *NI* will represent the marginal utility of food as long as the supply does not exceed *ON*. When it passes that point, and the increasing abundance causes the urgency of desire rapidly to abate, the corresponding decline of utility may be represented by diminishing perpendiculars erected upon *OX* and terminating in the curve

[5] In a very suggestive article, "Proposed Modifications in Austrian Theory and Terminology," in the *Quarterly Journal of Economics* for May, 1902, H. J. Davenport calls attention to the fact that in making comparisons, marginal utility must be taken in a relative sense, absolute utility being incommensurate. Probably no one will dispute the soundness of this view. Exchange value, considered quantitatively is a relative conception, a ratio; and marginal utility must be reduced to the same category, or comparisons will be futile and meaningless. With this avowal, the simpler expression "marginal utility" is retained in the text.

$F'F$. At the last stage, when the supply reaches Q, the marginal utility[6] of food will be represented by QF.[7]

In the same way $S'S$ is drawn as the curve of marginal utility for shelter. As shelter perhaps is not absolutely essential to life,[8] its marginal utility for the first unit of supply may be taken large, although not infinite, say OS'. As in the case of food, the marginal utility of shelter, when the supply reaches Q, is represented by a distance along QM, say QS.

Likewise $L'L$ may be drawn as the curve of marginal utility for luxuries.

If OQ represents the number of units in each group at some specific period, the distances QF, QS, QL will represent the various marginal utilities belonging to the three groups.[9]

[6] In this schematic representation $F'F$ would be called the curve of marginal utility. It should be borne in mind that marginal utility is not measured *along* this line. The meaning of the curve is that it is formed of the terminal points of perpendiculars which are erected upon OX from points that indicate the measure of the supply.

[7] Marginal utility being, for purposes of comparison, a relative quantity, as stated in note, p. 392, these perpendiculars represent the ratios subsisting between the utility of a unit of food and that of some standard unit, say, one dollar, or of the equivalent of one dollar in other supplies.

The objection may be made that with the supply of food at N, there might be in the market some purchasers so circumstanced that the marginal utility of food to them would be quite finite, and consequently it would be incorrect to put it generally that the marginal utility is infinite. The reply is that under the conditions supposed (1) such favored ones would be so few that they can be ignored; or (2) they can be classed with the sellers; or (3) it can be stipulated that the larder of every purchaser of food is empty at the time that the supply reaches N; or (4) we may take the point N nearer O, so as to represent a still more restricted supply.

The diagram is general in that it may be supposed to represent the relations of any one purchaser to the market. The individual variations are not such as to affect the vital relations that constitute the argument. For instance, the curve $F'F$ will vary in height for different buyers, but the essential characteristic of its superior altitude to $E'E$ at corresponding points is never wanting.

[8] It will not affect the argument if we regard the marginal utility of the initial supplies of shelter to be infinite, thus carrying the point S' to an infinite distance from O.

[9] The supplies of the different groups are represented by distances along the same line OX, although the units of the various groups are quite diverse. Accuracy, for our purpose, is not material, and is made subordinate to diagrammatic simplicity. This will explain, too, the apparent equality of the supplies in

Now let us suppose the food supply cut off to the point indispensable to life — that is, to the point N — the remaining groups not suffering any diminution. It is evident that the marginal utility of food will rise to infinity, represented by I.

At this critical stage of the supply, what will be the exchange value of food? Plainly, it cannot rise to infinity. Exchange value, quantitatively, is essentially a ratio; and as the quantities in the various groups are all finite, the ratios are finite.

The exchange value of food, under the specified conditions, could not be forecast with precision, since the state of competition and other circumstances of the market would make themselves felt; but necessarily it would be finite — say NE' — while the marginal utility is infinite at I.

The curve of exchange value of food will start then at some point E'[10] infinitely below the corresponding point of marginal utility. What course will this curve take as the supply of food is increased? Obviously, there will be no sudden leap to the curve of marginal utility. Granting this, it is evident that the former curve will remain at an inferior altitude for a considerable distance. The question is: Will they ever meet? That is, will the exchange value of food ever equal the ratio of marginal utility?

To answer this question, it will be convenient to view the subject from a slightly different standpoint, or, at least, to examine the circumstances more minutely. When we represent the marginal utility by NI — that is, by infinity — what is meant is that this is the marginal utility as viewed by the purchaser. He will give all the world, if he possesses it, for the food essential to life. The seller, however, has an excess, viewed from the standpoint of his personal requirements. The marginal utility to him is

the various groups. Different points along OX might have been taken for this purpose, but this would have somewhat complicated the diagram. Besides, the actual supplies at any time could be divided into the same number of units, giving, of course, quite an arbitrary unit for each group; but the aggregate of such units, in each case, would be correctly represented by OQ.

[10] Theoretically, the curve of exchange value should begin at some point in OY, and would do so in the ordinary case; but, in our illustration, if the supply of food were less than ON — that is, less than is indispensable to the lives of the society — there could be no such thing as economic exchange. Anarchy and riot would necessarily prevail.

quite low. Rather than retain his surplus, he will dispose of it at a low rate, say, about NF'''. In the diagram the conditions of the market are supposed to be such that the producers can command NE', which, of course, represents the actual exchange value.

This means that a complete diagram of marginal utility must show two curves for each commodity, the one drawn from the purchaser's point of view, the other from the seller's. In our diagram the inferior curve of marginal utility for food will start at F''', and will follow a course that may be supposed to terminate at F''.

There arises now a complex of queries: (1) Will the curve of exchange value meet either of the curves of marginal utility? (2) Will the two latter curves ever meet? (3) Upon the basis of an affirmative view of proposition (2), what happens to the curve of exchange value at the time of coincidence? A correct account of the phenomena vaguely foreshadowed in these queries is full of significance in the Austrian controversy.

Let us consider the case of barter under the simplest conditions — say, two men living on an island isolated from the world. Suppose at a specific time each finds himself in possession of five bushels of corn and five bushels of potatoes. Now, if the marginal utility of corn is the same as that of potatoes to A, and this is a faithful transcript also of the mind of B, there will be no disposition to make an exchange. Again, whatever the ratio of these margins, in case of agreement between A's and B's estimates, there will be no economic ground for an exchange.

But let us suppose a difference. A may consider that he can derive the maximum of satisfaction from the consumption of the two kinds of provision in the proportion of six bushels of corn to four bushels of potatoes. If B's choice varies from this, there will be an incentive to exchange. Now, if we suppose A ignorant of the state of B's mind, he may reason somewhat as follows: "This fifth bushel of potatoes will afford me about the same satisfaction as half a bushel extra of corn.[11] The exchange on

[11] That a consumer should elect his supplies of corn and potatoes in the proportion of 6 : 4 does not mean that the ratio of marginal utility is 6 : 4. That ratio would depend on the man and on the state of his supplies. The only circumstances under which one could lay down a law would be when the supplies

that basis, however, will not mend matters for me; but if B will give me anything in excess of half a bushel of corn, the bushel of potatoes is at his command."

B may take precisely the reverse view; that is, his choice may be six bushels to four in favor of potatoes. He may covet an extra portion of potatoes so much that he puts the utility of his fifth bushel of corn on an equality with that of a third of a bushel extra of potatoes. He stands ready to exchange at any ratio more favorable than $\frac{1}{3}:1$ (the $\frac{1}{3}$ representing potatoes).

Now, should there be a disposition on either side to secure the greatest advantage possible, especially if that one should be acquainted with the state of mind of his comrade, the exchange might take place on a basis close to one of the above ratios. In either event, one would make a slight gain of utility, while the other would realize a considerable gain.[12]

The point to be noticed is that the actual basis of exchange marks a new ratio, coinciding with neither of the above, but lying between them. In the case of corn, compared with potatoes, the marginal utility is $1:\frac{1}{2}$ (2) for A, and $\frac{1}{3}:1$ ($\frac{1}{3}$) for B. The exchange value must lie between 2 and $\frac{1}{3}$, since an exchange on the basis of either ratio mentioned would be a futile transaction for one of the parties.[13]

stand 6:4. Under the hypothesis that this ratio of supply realizes the maximum of satisfaction, he would be unwilling to disturb it, indicating the equality of the two margins at the time the ratio of provision is 6:4. As the law of marginal utility demands a change with change of provision, the ratio of marginal utility would be a function of two variables — namely, the changing provision and the mood of the person. It could be known only experimentally.

[12] Perhaps, in our illustration, friendliness or comradeship would temper the "trading" instinct, and a mutual exchange of confidences would decide the matter in favor of an even ratio, bushel for bushel; but this is not what happens in an ordinary modern market.

[13] Some would say that the ratios 2 and $\frac{1}{3}$ in the illustration mark points of indifference as to exchange. But the situation is described more accurately by saying that no exchange would take place. No motive exists on either side, and a motive of gain is indispensable to an economic transaction. Besides, the mere bother of exchanging demands economically some compensation, and hence will cause the exchange value to vary from the point of marginal utility. In the modern industrial system this bother becomes "commissions," "salaries," etc. — selling expenses — and, of course, must be definitely reckoned with.

In these cases of diverse margins of utility the conclusion seems inevitable that the exchange value must vary from either. Indeed, if we insist on a coincidence, with which ratio must it coincide?

There remains the case of coincidence of the two margins of utility. This happens obviously when the two parties are satisfied with their existing supplies. If A and B have each five and five of corn and potatoes, and the final utility to each is 1 : 1 (1), and the knowledge is mutual, neither one will contemplate an exchange. This marks the so-called point of indifference. It rather marks the suspension of market operations. An exchange would be a futile transaction. It would not take place.[14] There would be a break in the curve of exchange value corresponding to the point of coincidence of the two margins of utility.

We may transfer this logic to the diagram with identical results. The intervention of a medium of exchange will not alter the situation. If a medium is used, it stands to the purchaser for a specific measure of utilities — miscellaneous, of course, and consequently more likely to bring about unexpected results; but as marginal utility is a matter of estimate simply, this will not affect the problem — and this measure of utilities is weighed against the commodities for sale in the same way as in case of simple barter. If we suppose exchange value to equal the marginal utility of the commodity offered for sale, in the estimate of the purchaser, the exchange would be futile to him. If it is so low as to parallel the marginal utility, in the estimate of the seller, the exchange would be futile to the latter. If the two margins of utility (estimates of seller and buyer) coincide, there would be no exchange. The purchaser will not give in excess of his estimate of the marginal utility, and the seller will not accept an offer short

[14] Supposing that, under the circumstances of equal supplies and equal margins of utility, A and B should make the exchange of a bushel of potatoes for a bushel of corn. This would at once disturb the equilibrium, as it would alter the ratio of provision from 5 : 5 (unity) to 6 : 4. Now, according to the law, an alteration of this ratio entails a variation in the ratio of marginal utility. The postulated exchange would work to the disadvantage of both parties. Even if one ear of corn were exchanged for one potato, theoretically there would be some, although a slight, disturbance.

of his own estimate. They will not exchange on even terms, as the transaction would be futile to both — there would be no exchange.

These illustrations can be multiplied *ad infinitum*, and with the same result. They prove, at least, that the measure of marginal utility is not the measure of exchange value. The disparity at times may be small, or it may be infinite, as in the case of the diagram. There is always some difference or no economic exchange.

In many of the industries under modern organization, the lower marginal utility is practically zero, since goods are manufactured exclusively for the market. The Austrians have realized the seriousness of this excessive disparity between the two limits. With their customary ingenuity, they discard, in these cases, this lower limit — the producer's estimate of marginal utility of his own wares, his "subjective valuation" of them — and resort to substitution. The substitute seemingly approved by Wieser is designated *subjective exchange value*, and is defined as the subjective valuation of the goods got in exchange for the seller's commodity.[15]

"Although the commodity has no value in use to the seller, yet the price which he receives has an indirect value in use to him, since it enables him to buy goods of direct value in use."[16]

As the large entrepreneur does not contemplate the investment of his proceeds, except to an insignificant extent, in goods for personal use, it is difficult to see how the new determinant applies to his case. What he desires most of all is to pay his bills. The price is a cold, abstract proposition that has not a suggestion of subjective exchange valuation in it. His supreme interest in the selling price is that it may suffice to cover his expenses of production, including a generous profit for himself.

The introduction of subjective exchange value into the con-

[15] Böhm-Bawerk, *Positive Theory*, pp. 166, 167: "The amount of subjective exchange value . . . . obviously coincides with the amount of the use value of the goods got in exchange. . . . . The amount of the good's subjective exchange value, therefore, is to be measured by the marginal utility of the goods got in exchange for it."

[16] Wieser, *Annals of the American Academy*, Vol. II, p. 625.

sideration of price is made without apology for withholding from it universal application. It is explained that in a small market, in isolated exchange, "the price is determined somewhere between the subjective valuation [marginal utility] of the commodity by the buyer, as upper limit, and the subjective valuation of the seller, as lower limit."[17] In a large market this lower subjective valuation is discarded in favor of some higher valuation which Wieser identifies with "subjective exchange value." But why does not the new determinant apply equally well to a primitive market, to "isolated exchange"? Rather, why has it not even a more plausible application, in the case of simple barter? We have seen that the large entrepreneur has no occasion to look beyond the objective aspect of the price, since the returns are devoted, not to personal use, but to the liquidation of accounts. In the case of barter, however, where each exchanger has in view the personal consumption of the commodities under negotiation, the very statement of this circumstance avers that exchange is contemplated from the standpoint of subjective valuation.

If A has a little superfluous meal, but is short of potatoes, and B's situation is just the reverse, what is the moving principle of exchange between them? Plainly, the consideration of the subjective use of each other's provisions. Now, if A barters a sack of meal for one and a half bushels of potatoes with a view to personal consumption, the store received has not a mere objective significance to him. He exchanges because he craves potatoes as an article of diet, and he evidently concludes the exchange in view of his comparative valuation[18] of the two species of provision.

It seems plain from the above passages that the notion of subjective exchange value is associated with a small market, or isolated exchange, rather than with a large market. But this fact does not argue that the notion has anything to do with the determination of exchange value in *any* market. On the contrary, the very genesis of subjective exchange value shows that the office ascribed to it is an impossible one. It comes into calculation, of

[17] *Positive Theory*, p. 199.

[18] Notice that this is not subjective *exchange* valuation.

necessity, subsequently to the fixing of *objective* exchange value; for how can one make a subjective valuation of a thing unless he first knows what the thing is? And the thing itself is the exchange value in its objective character, or, simply exchange value, as it is usually designated.[19]

This conclusion follows, too, from the Austrian definition of the notion in question. For instance, "The amount of subjective exchange value . . . . obviously coincides with the amount of the use value of the goods got in exchange."[20] But this "use value" cannot be determined without first knowing what we are thus evaluating, that is to say, without first knowing the amount of the "goods got in exchange," which is the objective, or, simply, the exchange, value.

Böhm-Bawerk's expansion of the above definition makes this point still clearer. He adds: "The amount of the good's subjective exchange value, therefore, is to be measured by the marginal utility of the goods got in exchange for it." But the marginal utility (to the receiver) of the goods got in exchange is confessedly higher than the exchange value, for, as Böhm-Bawerk truly says: "The price [exchange value] is determined somewhere between the subjective valuation [marginal utility] of the commodity by the buyer, as upper limit, and the subjective valuation of the seller, as lower limit."[21] In our illustration, A's subjective valuation of the one and a half bushels of potatoes is in excess of that of the sack of meal; otherwise he would not exchange. Say it is equal to that of two sacks of meal. Then the proposition may be stated suggestively as follows: A's subjective *exchange* valuation of one sack of meal corresponds to his subjective valuation of two sacks of meal. But how could he determine this relationship without having in mind the definite measure of potatoes received; that is, without first knowing the *objective*, or, simply, the exchange, value?

[19] To reach subjective exchange value, in the illustration, there must be an evaluation of the one and a half bushels, the definite quantity received in exchange. The evaluation of potatoes without reference to this definite quantity would be simply subjective valuation, and takes place, as has been explained, before exchange.

[20] See note 15, p. 398. [21] *Positive Theory*, p. 199.

There can be a subjective valuation of two commodities put up against one another; for instance, A can compare the use values of meal and potatoes; in fact, he cannot avoid doing so in contemplating an economic exchange, but he cannot determine the subjective *exchange* value of his sack of meal without first knowing, objectively, the terms of the exchange.[22]

The realization of the zero subjective valuation (lower marginal utility) is not confined to markets operated by the great captains of industry. It is a common experience. In a comparatively small or primitive market the marginal utility may drop to zero or below. It will be instructive to study such a case.

A small fruit-grower, located well away from the centers of industry, has a crop of apples. Conditions are such that the expenses of picking, packing, and freight will eat up the price. As he has more than his family can possibly use, his subjective valuation (marginal utility) of them must be zero. It is even less favorable than that. The apples are a burden to the trees and will rot on the ground. Their utility is really negative. He will gladly give them to anyone who will relieve his orchard. Possibly some one can be found who will take them on these terms.

Exchange value, in this case, is zero. But what is true of the marginal utility? To the second party (the "purchaser") the marginal utility must be positive, else he would gain nothing by the transaction.[23] To the fruit-grower ("seller"), however, the subjective valuation must be negative, else there would be no gain to him from the transfer. The record then stands: upper

[22] It is proper to state that Böhm-Bawerk himself does not expressly apply subjective exchange value to the determination of price, or exchange value. At the same time he is responsible for introducing the notion into the general exposition of the subject, and it has naturally led to confusion and error. This author attempts to resolve the difficulty of the zero use valuation by a method that seems to confirm its validity as a limiting function. He first dismisses the use value to the seller from the calculation, claiming that price is determined in this case solely by the purchasers' valuations. Then he explains that in certain contingencies the zero limit is installed again. This admission, or exception, amounts to a reversal of the primary affirmation, since it is equivalent to saying that, although zero is the real lower limit, we must be careful to bear in mind that the price rarely reaches that point, even approximately.

[23] He may be short of stock feed, or there may be other uses not feasible to the fruit grower.

margin of utility ("buyer's"), positive; lower margin ("seller's"), negative; exchange value at the intervening point, zero.

This case may well be one wherein all the ratios are minus. The "buyer" may have no use for the crop, and yet he may have facilities for clearing the orchard at less trouble and expense than the owner. Here we have conditions suitable for an economic transaction. The marginal utility to the "buyer" is negative in slight measure; to the "seller," it is the same in greater degree. The latter "pays out" (negative of "price" or "exchange value") something to effect the "exchange." The same logic, used when the functions are positive, locates the negative price, or exchange value, at a point between the negative estimates of marginal utility (negative subjective valuations).[24]

By the extension of the notions of utility and value into the

[24] Cases of negative utility in actual experience are numerous. The air at the earth's surface has ordinarily the marginal utility, zero. In mines, in diving-bells, in workshops and other buildings, appliances are used to renovate the life-giving fluid. In these cases both the fresh and the vitiated air have exchanged value, the one positive, the other negative. The owner of the building stands in the relation of buyer; the installer of the appliance, as seller; fresh air is the commodity. In the reverse aspect of the case, the former is seller; the latter, buyer; and vitiated air is the commodity. The two margins of utility of the first commodity evidently are positive and zero, the price paid, or exchange value, lying between. For the second commodity, vitiated air, we have the upper margin of utility (the subjective valuation of the installer of the appliance) at zero; the exchange value (the seller pays, the buyer receives, in this case) is negative; and the lower margin of utility (to the owner of the building) is a lower negative.

Considerable has been written to the effect that "cost," in the sense of "pain" or "sacrifice," associated with labor and capital, should be taken as the negative of utility or value. So far as the matter affects economics, however, the text presents the simple and natural analysis of the relation. All concepts pass from the positive to the negative form through the vanishing point, without generic change. In the above illustration, we see how marginal utility and exchange value pass naturally into a negative relation.

Notice that the negative functions of these notions apply to the same concrete objects that give rise to the positive relations. In the case of the text, apples are the concrete source of these positive and negative functions. Here we have indicated the proper test of the validity of deductions as to positive and negative, relative to the economic functions of utility and value.

The so-called "sacrifice" or "pain" has its negative aspect also, as may be realized by considering a complete scale of its gradations. As the sense of pain diminishes, it passes through the vanishing point to the negative form of pleasure.

negative region, we have a comprehensive survey of the zone of exchange value, with its potential motion along a scale that includes the vanishing point, zero. The margins of the zone coinciding with the margins of utility mark the limits of the fluctuation of exchange value.[25]

Having seen that the measure of marginal utility is not the measure of exchange value, it remains to inquire more narrowly into their relation. It will be conceded at once that inequality of dimension between homogeneous phenomena does not of itself exclude causal relation. The water at the earth's surface is the source whence fog and cloud derive their substance; and yet the atmospheric effect and the terrestrial source or cause are not commensurate. Does this denote the relation of marginal utility to exchange value? No one is disposed to dispute the causal connection of utility with exchange value — no utility, no exchange value. But there may be an abundance of utility and yet no exchange value. This shows, at least, that utility alone cannot beget exchange value. On the other hand, there can be no economic exchange without what has been termed marginal utility. This, too, is freely conceded; but does it prove that marginal utility controls the height or amount of exchange value?

After what has been observed with reference to the zone of play enjoyed by exchange value, bounded by the two margins of utility — a zone that may run infinite,[26] as in the case of the diagram — it may seem superfluous to state that marginal utility cannot be the sole determinant of exchange value. One might as well ignore the sun, and say the ocean is the sole cause of the atmospheric moisture.

The margins of utility mark the upper and lower limits of exchange value. These boundaries are variable; and, however sharp or abrupt the variation in any single case, they always include the point of exchange value, although, owing to the

[25] We shall have occasion later to notice cases in which the buyer's subjective valuation (higher marginal utility) is entirely displaced as the upper limit of this zone.

[26] This is one of the cases referred to in last note, in which a new limit displaces marginal utility altogether as the upper boundary of this zone.

width of the zone, this point is not always sensitive to the variation of the limits.

Since these limits measure the intensity of demand, respectively, of buyer and seller,[27] this office of limitation itself would seem to argue a very large share of the determination of exchange value in favor of demand; unless, indeed, it should appear that there is an external force at work alongside the latter agency, co-operating with it, in the determination of the marginal-utility limits themselves.

The name itself suggests such external force. The thing denoted by "margin" is not involved in the simple concept "utility" or "demand." Neither the concept nor the name "marginal utility" is monogenetic. Neither has a simple origin. The "margin" of supply contributes the element that makes it possible that there should be a specific *marginal* demand. The realization of the marginal demand is dependent on the presence of a definite measure of supply.

This marginal demand may be due, of course, to an *accredited* or *anticipated,* as well as to an *actual,* supply; and this means that the accredited, or anticipated, is in *effect* actual, in its influence on the factor of demand. Whether supposititious or actual, it is circumstance of supply that is largely responsible for the specific intensity of the demand, or, to put it a little more suggestively, that causes the demand to manifest a specific intensity, as expressed by the marginal utility.[28]

And now it begins to look as though the dominant share in the determination of marginal utility must be assigned to the agency of supply. Such is not the purpose of the argument. Utility obtains independently of any of the circumstances of supply that are due to human agency. Nature has furnished

[27] "The withdrawing seller is himself a buyer." — H. J. Davenport, *op. cit.*, p. 283.

[28] The Austrian school recognizes the agency of supply acting on marginal utility. For instance, Mr. Smart closes his treatise, *The Theory of Value,* with an approved paragraph taken from Jevons, closing as follows: "Labor is found often to determine value, but only in an indirect manner, by varying the degree of utility of the commodity through an increase or limitation of the supply." The qualification "only in an indirect manner" seems meant to convey the impression that *indirectness* in some way robs the agent of his function, or neutralizes the

materials and has endowed them with utility. Man's part has been in the direction of multiplying and diversifying the things suitable to share in the natural bounty. It needs not saying that nature's gift of general utility is the fundamental requisite to the emergence of any quantitative function — specifically, that of marginal utility. To question this would be to question that the waters of the sea are indispensable to the moisture of the air. The agency of supply does not act in the character of a creator of either general or marginal utility, but in the character of a quantitative modifier. With the essence of utility the agency of supply has nothing to do, just as the sun has nothing to do with creating the substance of the vapor. In either case the agency in question has much to do with the quantitative measure of the effect.

In the case of marginal utility, the variation at one time is plainly due to conditions of supply; at another time the change is evidently due to the factor of demand. As an example of the latter, upon the breaking out of hostilities, the marginal utility of all war supplies has a tendency to soar. Again, the caprice of fashion may cause the marginal utility of a commodity to drop with equal abruptness.[29] On the other hand, the application of improved productive facilities (inventions and the like) has a tendency to increase the output and lower the marginal utility. The converse is also true.[30] All of which shows that the forces controlling marginal utility are multiple, sometimes exhibiting cumulative, at other times residual, effects, depending on whether the agencies work in harmony or conflict.[31]

effect. But this same indirectness in no wise diminishes the effectiveness of a principle, if serving in a cause that the Austrians espouse. They freely admit that "cost of production regulates value," but this is only a "direct" regulation. The "indirect," or ultimate control is vested in the agency of utility.

The latter part of this paper takes up the argument as to cost of production. As to *indirectness*, it has just the same effectiveness as *directness*, and enjoys the merit of referring to an agency one step, at least, nearer the original or ultimate principle of causation.

[29] It may be remarked, in passing, that changes in marginal utility are attended usually (although not necessarily) by changes in exchange value.

[30] The latter part of this paper criticises the Austrian interpretation of these phenomena as affecting the conduction of value between cost and product.

[31] The last argument is not directed against the principle of marginal utility,

Having seen that the limit set by marginal utility is the resultant of dual sets of forces, we may now enter the precinct presided over by the two margins, the "zone" of exchange value, and study the forces operating directly to fix the ratio of exchange. For this purpose we shall make but slight progress in the realm of simple barter. In the case of the two husbandmen, with their modest store of corn and potatoes, the principle of exchange would likely be extra-economic — friendly feeling taking the place of economic motives in making an exchange. We may as well repair to a larger market at once, and, for our purpose, the diagram will furnish a fruitful field of study.

We saw, in the earlier discussion, that competition among the purveyors of food was one effective agency. But that does not exhaust the category. If the supplies of the other two groups of commodities were to become either greater or less, the point E' would be sensitive to the change. The more abundant these supplies, the higher the exchange value of food, and *vice versa*. So, operating at the same time with circumstances of competition among sellers, we have circumstances of provision among buyers. A barely sensible competition, bordering on monopoly of food, co-operates with redundant supplies in the remaining groups to elevate the point E'. Energetic competition, on the other hand, co-operates with scant supplies to depress this point. It is evident that a transverse pairing of these forces will manifest neutralizing effects. Thus we have the various forces working in alternate

excepting so far as the latter is interpreted and emphasized as conflicting with, and superseding, the classical doctrine of supply and demand. Consider the following:

1. Training of youth makes for good citizenship.
2. The family institution makes for the training of youth.

The validity of proposition 1 is unquestionable, and yet the causal relation leading to good citizenship finds adequate expression only when the second proposition supplements the first. The relation is as well stated in the form: The family institution makes for good citizenship through the instrumentality of training of youth. Just so the causal principle (as presumed for argument's sake) relative to exchange value is adequately stated in the form: Supply and demand regulate exchange value through the instrumentality of marginal utility.

It must not be inferred that this formulation of the law of exchange value is sanctioned by this paper. It is used simply in illustrating the force and compass of the current argument.

unison and antagonism in the determination of the specific height of exchange value.

Circumstances of provision among buyers must be regarded as a demand function. Buyers have a limited quantity of utilities with which to balance their purchases. This specific supply, "circumstances of provision," may be called the "purchasing power"[32] of the buyers, as against the "subjective valuation," or "marginal utility," which expresses the *intensity* of their demand.

In the case of the diagram the marginal utility of food is infinity. The purchasing power is infinitely less, being the sum of the supplies of the two inferior groups; it marks the upper limit of exchange value in our illustration, and is represented in the diagram by P'.[33]

In case of a strict monopoly and of exchange made on a purely economic basis, the price P' would be realized.[34] If other considerations are influential, or if the conditions are competitive, the exchange value would settle at some lower altitude, E'.

This auxiliary agency in the determination of exchange value is on the demand side, but is entirely distinct from marginal utility, having nothing of the subjective character of the latter. It is a function of the objective state of the demand market — of

[32] Akin to "effectual demand" of classical writers, "equation of supply and demand" of Mill. Marshall, in his *Principles of Economics*, at p. 567, in a note on Ricardo appended to Book V, chap. xiv, of the fourth edition, writes: "For the price which the various purchasers in a market will pay for a thing is determined not solely by the final degrees of utility to them, but by these in conjunction with the amounts of purchasing power severally at their disposal."

[33] In harmony with the plan of the diagram, it is necessary to indicate purchasing power indirectly. The direction OY is reserved for the measurement of ratios. NF''' and NF' measure the ratios of the utility of a unit of food to that of the unit of exchange. Calling the unit of exchange 1, the magnitudes, NF''', NF' NE' are, of course, the ratios themselves.

NP', consistently with this analysis, measures the price at which a unit of food must be sold in order that the whole quantity sold will just exhaust the supplies of other commodities (purchasing power) in the hands of purchasers, reserving, if you please, as much of these latter supplies as is necessary to maintain life.

[34] Of course, under the assumption of the diagram that shelter is not absolutely essential to life. Under the contrary assumption the price would fall below P'.

the supplies in the hands of the buying public. It marks one more entry in the category of causation of exchange value.

In our illustration, P' takes the place of I as the upper limit of exchange value. It will be remembered that, according to our analysis, exchange value never coincides with either of the marginal-utility limits. In the case of the diagram the upper marginal limit is infinitely beyond reach. A new inferior altitude is installed as the upper limit of exchange value, representing the sum-total of the objective state of the market on the demand side.[35] This point P' will continue to mark the upper limit, as the food supply increases, until the curve of marginal utility, $F'F$, descends to the same altitude as P', say at P.[36]

We may summarize the main results thus far attained as follows:

Exchange value is a complex function, not a simple one.

This function is dependent immediately on the circumstances of competition among the sellers, on the one side, and on the circumstances of provision (purchasing power) among the buyers, on the other side.

Again, concomitant with the above agencies, exchange value is dependent on the concrete variable, aggregate of supply in the hands of sellers, on the one hand, and on the abstract variable, intensity of demand by buyers, on the other.

The resultant of these latter agencies is registered primarily in the variation of the marginal-utility limits themselves, and secondarily in the potential movement of exchange value which the variation of the limits involves. In other words, this effect is manifested in the movement of the "zone" of exchange value,

[35] See note 33.

[36] Evidently P will have the same altitude as P' only on condition that the supplies of the inferior groups — the demand groups of the diagram — remain constant, while food increases. The cases in which, in our usual social environment, marginal utility would be displaced as the upper limit of exchange value are perhaps unimportant as practical problems, but theoretically they are real. In primitive life, however, as well as in lonely wilderness, desert, or pioneer circumstances of living, this displacement would be common.

It will be noticed that the "zone" of exchange value is contracted by the installation of a new upper margin — so that, strictly speaking, this zone never is infinite in compass.

carrying with it ordinarily, although not necessarily, a variation in the height of exchange value.[37]

It is an easy step from the consideration of exchange value to that of "cost of production." And here, as was stated at the beginning of this article, the theory of the Austrians has the advantage that comes from first reducing the notions to be considered to a single category. Value has been offset by value in their formulation, and sacrifice, as an abstract concept, plays no essential rôle in the calculation.

Cost, in the sense of pain or irksomeness, is not an integral part of the system of the Austrians. Apparently they have taken up the thought because they found the thread of it running all through economic discussion. By first interpreting cost as a value-concept, they have plausibly correlated it with their own doctrine.

The refutation of the principle of marginal utility, as the rule of value, carries with it the refutation of the Austrian doctrine as to the reflection of value from product to cost. All the argument employed in the examination of the evidence of the former law may find parallel service in the latter inquiry; it requires only a slightly different setting.

Cost of production determines the value of the product; and yet that is not to say that there is no law of limitation — a limitation issuing out of the very heart of the product. The determination is such that the exchange value is limited to the altitude of marginal utility. Does this restriction signify the reversal of the law of determination? It seems to be so construed by the Austrian school. The eagle has considerable liberty to soar, although his flight is confined within the bounds of his buoyant environment. Just so the sovereignty exercised by cost over the

[37] The zone movement, it should be noticed, is manifold, the zone itself being elastic, expanding and contracting, spreading by means of the elevation of the upper margin, or by the depression of the lower, or both; also *vice versa*, and transversely. In addition to this, there is a possible translation of the entire body of the zone. This picture makes it plain that there may be a change in the altitude of the limits at the same time that the height of exchange value is stationary.

value of the product has its limitation, which, however, no more than in the case of the eagle, means the relinquishment of its rule.

Let us follow the lead of the Austrians in the matter of interpreting costs as expenses, and, dismissing the causal sequence for the present, it will be profitable to study, for itself, the relation of equality subsisting between expenses and product. Either one is necessarily the measure of the other; and in this sense, at least, it may be said that either determines the other. The whole is neither greater nor less than the sum of its parts, so that the equilibrium between expenses of production and the value of the product is simply a case of equilibrium between the parts and the whole. Exchange value, or price, of the product, can, in every instance, be resolved into its elements, and these elements are the expenses of production.[38] Our study of negative functions[39] will enable us to understand the cases that show an apparent discrepancy.

Let us dissect the exchange value, or price, of the product. We have (1) the wages of labor and (2) the interest of capital. Here are two elements that are nearly always present; and, aside from previous products, such as raw material, and such incidental expenses as taxes, a logical differentiation would probably make these two species of emolument exhaust the entire category. Rent,[40] which might be counted a third element, and the profit of the entrepreneur, a possible fourth, may be listed, the former under interest, and the latter under wages.[41] For our present

[38] Of course, the only chance of a controversy here affects the content of "expenses of production." This paper takes the ground that expenses of production properly include all expenses incurred in transforming materials into a consumption product — that is, a product in the hands of the consumer. It is not worth while to discuss the propriety of the nomenclature; "expenses of acquisition" will serve the purpose. The sole object at present is to differentiate the various elements that constitute the sum-total.

[39] See pp. 401 ff.

[40] It is not necessary to go into the controversy as to whether rent is a joint determinant of value. We are now examining the elements of value that we find in an individual entrepreneur's specific product — which is quite a different problem from that of determining the elements that fix the value of a product considered as a *genus*, or as representing an entire branch of industry.

[41] If anyone can find other elements in the schedule of expenses, they may be added to our list. Our work here is a task of dissection, purely — dissecting the structure of price.

discussion it will be convenient to list profit[42] distinct from wages, not because it is radically different, but in view of a certain characteristic bearing on our classification, and which does not apply to wages,[43] namely, its liability to lapse from positive to negative.[44] Let us consider a specific example:

A shoe factory turns out in a season a product of $1,000,000. The wages, interest, rent, previous products, and incidentals amount to $900,000, leaving a profit of $100,000. Usually[45] the entrepreneur forecasts the returns from the product so as to allow a profit of a positive character. But, if his particular product should suffer a sudden depreciation, by change of fashion or other cause, the returns might not leave a margin of positive profit. With our negative conception, however, a profit always obtains. If in the example, the product yields but $800,000, the expenses of production will schedule somewhat as follows:

Wages and incidentals	+	$500,000
Interest	+	15,000
Rent	+	50,000
Previous products	+	335,000
Entrepreneur's profit	—	100,000
Total		$800,000

[42] It is a question whether profit as well as rent should not be excluded from the list of "determinants" of exchange value. But, in examining the value of an individual's product, there would generally be a discrepancy, if profit, in addition to rent, were not included — a discrepancy sometimes positive, sometimes negative. The exceptional case would be when the profit is zero.

[43] Wages of subordinates sometimes become negative. A commission salesman may earn less than his expenses. In this case, however, the negative element does not enter into the exchange value, since the deficiency is made up from the salesman's independent resources — unless the entrepreneur advances such expenses and is not indemnified, in which case the deficiency due to this cause serves to abridge the profit of the entrepreneur, and through this door finds its way into the price.

[44] We do not distinguish price and exchange value in this connection. The differences are such as would affect the individual shares of the factors of production; they would not disturb the equilibrium that we are examining, and they need not complicate our calculation.

[45] We leave out of consideration extraordinary commercial losses from bad debts, fire, flood, earthquake, or any other catastrophe of nature.

In the case of our primitive husbandmen,[46] wages, interest, rent, profit, etc., coalesce into one complex mass, the same man being laborer, capitalist, landlord, and entrepreneur. The lump sum with the value of previous products evidently make up the exchange value. With De Quincey's musical snuff-box, the extortionate price was the case of a monopolistic advantage pushed to the limit, the huckster having exact knowledge of his victim's weakness. The profit, added to the other expenses, as before, made up the price.

It is needless to multiply illustrations. All we have done so far is to resolve a whole into its constituent parts. The process itself says nothing of causal sequence one way or the other.

But now, in our analysis, the determination of the entrepreneur's profit by the process of subtraction lends color to the view that the value of the product determines the value of the factors of production. There seems to be a residual share. We have, at best, as the data on the expense side, wages, interest, rent, previous products, and incidentals. The value of the product is required in order to evaluate the remaining element of profit. The product thus determines the final share, and, as a corollary, it determines also the sum-total of expenses.

This summing-up does no injustice to the logic of the situation, so far as the immediate facts are concerned. The trouble is that these immediate facts are bound up with others that are antecedent, and that are not taken account of in the illustration. In taking a specific case, we have isolated one member of a craft, and he has been obliged to fit himself into conditions preestablished. One manufacturer, out of a hundred or more, making a standard class of goods, cannot regulate prices. If he has a monopoly in a particular branch, the case is different. He can then dictate to the market by adding an arbitrary profit to the remaining expenses. In lieu of a monopoly, the entire craft, as the resultant of more or less intelligent calculation and competitive enterprise, and in the light of experience, fixes the price at a certain point, which, of course, is not always stable even through the season. Every member of the craft adapts his

[46] Pp. 395 ff.

mechanism of production to the price thus prearranged, and his individual profit is dependent on the inevitable contingencies of business life.[47]

As has been stated, independent proof that cost determines value is superfluous, since it is involved in the refutation of the marginal-utility theory. But it will perhaps be profitable to notice some of the evidence offered by the adherents of the new school.

Mr. Smart apparently considers the following a decisive test of his doctrine:

> The proof of this conduction [from product to cost] is not far to seek; it is found in the common phenomenon of dead stock. However great the cost expended on an article, if the public will not have it, all the costs in Christendom will not give it a value. . . . . Suppose that an article, of which there is a stock, goes out of fashion, the value and the price of it fall at once.[48]

This is a special case noticed on page 405, in which the sudden decline of utility registers its effect in the contraction of the zone of exchange value by a depression of the upper margin, the lower margin (the seller's subjective valuation, or marginal utility) remaining practically as before, at zero.

One could find equally cogent reason for tracing the conduction of value in the reverse direction by the following evidence: When new appliances in production greatly reduce the cost, the exchange value of the product drops to conform to the new schedule of cost, notwithstanding the fact that the marginal utility remains as before.

Of course, the marginal utility would decline with the multiplication of the products, but the decline of "price" takes place as a sensitive effect to the decline of cost *always,* unless other conditions supervene. These other conditions — at least one other condition is apt to supervene in such cases, namely, a monopoly enjoyed by the inventor of the new appliances. Let there be the same condition of competition under the new régime of cost as under the old, and the price will be sensitive to the change of cost as surely as effect follows cause. And notice, too, that if

[47] Of course, even in the case of a monopoly, the determination of price is subject to the limitation set forth in our previous discussion.

[48] *Introduction to the Theory of Value,* pp. 68, 69.

price is maintained by reason of a monopoly, this monopoly is a factor in circumstances of supply, and not of demand.

In the case just cited (improvement of productive facilities), the Austrian school concedes that cost is the *direct* determinant of value, insisting, however, that the ultimate principle of determination still resides in the utility of the product. When pressed at this point, we have an exhibition of industrious and skilful parrying. According to the argument, it is not the marginal utility of the specific product that determines the price, but that of some other product related to the former by the fact of dependence on the same general organization of production. This case is so important that it is worth while to state the argument in full. Wieser's account is as succinct as any, and to the point; we use his version:

> There are, however, cases where, without influencing the quantity of production, the cost directly determines the value of the commodities. It must suffice here to illustrate this by a single example. Suppose the railroad system of a country to be complete, and consequently the general demand for rails is limited to that quantity which is required to replace the wear and tear. Let us suppose, furthermore, that the value of iron, owing to an immense increase in the production of that metal, considerably decreases — what will be the effect on the value of rails? Their utility does not apparently change, nor the quantity produced; nevertheless their value will decrease for the very reason that the cost has lessened. If the production of rails were monopolized, the former price could be maintained, and the fact that the rails had decreased in value would only come into account in the internal production. Free competition, however, will compel the producer to adapt the price to the rectified valuation, and to allow the consumers to participate in the reduction of the value.
>
> Without further analyzing these cases, mentioned as illustrations, I shall only show their general theoretical importance. We have here to do with a new application of the "law of marginal utility." The utility of the rails no longer depends upon their possession, nor even upon their marginal utility, but only upon the still lower marginal utility of the material, labor, etc., which are requisite for their production. The value of these materials, labor, etc., is determined by that of commodities having a still lower marginal utility than the rails; for example, ordinary tools. The value of the rails is determined, therefore, (1) by the quantities of iron required; and (2) by the utility they have in their most unimportant application in other production processes. Although the rails do not owe their value to *their* utility, they owe it to *some*

kind of utility, primarily to that of the means of production employed; finally to the marginal utility of certain other commodities."[49]

According to this reasoning, the value of products generally, in the present industrial organization, must be traced, not to their own utility, but to the utility of other products, so-called marginal ones. It would be interesting to know how Wieser would handle the dialectics of his illustration, in case there were no uses for iron of less utility than steel rails. Obviously, in this case of definitely limited demand of iron products, when the cost was reduced, one result would be found in the transfer of parts of the labor and capital, or part of the *ensemble,* to other branches of industry. Wieser would probably argue that, in this event, the determination of value must be traced into another industry, where may be found a commodity of the proper utility, that is produced by the same cost. If we push this process of finding a vicarious utility to its theoretical limit, we should have the entire category of commodities tracing their value to the marginal utility of some one individual commodity.

But we need not depend on the evidence of cumulative probability that the Austrian reasoning is fallacious. There is a simple proof right at hand. To return to the steel-rail illustration, it is argued that the reduced value of steel rails is determined by the lower utility of the marginal iron product (of the same cost), say, steel braces for buildings, rendered marketable by the new régime of cost. What Wieser meant, unless he was unconsciously influenced by the exigencies of his theory — at least, what an impartial observer would mean by the statement that the value of steel rails, under the circumstances, is determined, not by the marginal utility of the rails, but by that of the braces — was that the utility of the braces is *commensurate* with the value of the rails. This is quite a different matter, as we have seen.[50] The trouble comes about from the use of the ambiguous word "determine." It may refer to the result obtained by measuring, or it may refer to a causal agency. It will be readily shown that the term is applicable, in this connection, only in the former sense.

[49] *Annals of the American Academy,* Vol. II, pp. 618, 619.

[50] Pp. 403 ff.

First, let us segregate the real factors of the problem. There are (1) the steel rails, of comparatively high utility; (2) the steel braces, of comparatively low utility; (3) the exchange value of the rails; and finally (4) the cost of production of the latter.

Next, let us separate the constant factors of the problem from the variable. First, the utility (marginal) of the rails is supposed to remain constant, and, secondly, that of the braces is also supposed to be a definite amount. The remaining factors, however, the exchange value of rails and the cost of the latter, have changed. It is a truism of philosophy that a change in either cause or effect involves a change in the other. The marginal utility neither of rails nor of braces suffered a change.[51] Consequently these two factors may be dismissed from consideration; and we are left to the conclusion that the change in the value was due, not to utility at all, but to the decreased cost, which showed a commensurate change. So far as the causal agency is concerned, not only was the decline in exchange value due to decreased cost, but this decreased cost was the direct agency that enabled producers to market a commodity of lower marginal utility than rails. The causal current flowed from cost to the exchange value of rails, and also to the marketability of braces.[52]

We may subject the Austrian theory to a test of a somewhat different character. The adherents to the Austrian faith cite the

[51] Of course, it is not meant that these functions (marginal utility of rails and of braces) are devoid of mutability, as a permanent condition; but, during the decline of cost and of exchange value of rails, the marginal utility of the latter is supposed to remain as at first. The marginal utility of braces was a lower constant, awaiting the proper leveling of cost in order to become available in exchange. At a subsequent period, under other circumstances, both these utilities might fluctuate.

[52] It will be remembered that the rule of cost is subject to a certain limitation residing in marginal utility, just as the liberty of flight for the eagle is subject to the limitation imposed by the state of atmospheric buoyancy. This limitation in production manifests itself by the exclusion of commodities whose utility is not sufficient to warrant the expense of producing. The expenses of production would demand a higher price than is represented by the utility. The fact that utility itself can do nothing toward reducing the price to a marketable basis shows that the causal agency must be sought elsewhere. Marginal utility simply exercises the office of limitation; and even this office is a passive one, since the amount, or height, of the marginal utility itself is dependent on the joint action of supply and demand. See pp. 404 ff.

fact that commodities tend to decline in exchange value with increase of the product.[53] There are cases that show even a decline in the *total* exchange value, when the product is extended. This they look upon as evidence that exchange value originates in the product. They forget for the time being that these phenomena are characteristic of individual isolated cases — that, at the same time, other products must show an increase in exchange value, to balance the decline of the few. There is no such thing as a general decline of exchange value.

> To suppose that high wages make high values is to suppose that there can be such a thing as general high values. But this is a contradiction in terms: the high value of some things is synonymous with the low value of others.[54]

The fact is that if all commodities were multiplied in the ratio of existing supplies, not only would the balance of exchange be maintained, but the total exchange value of the *ensemble* would increase in proportion to the increase of physical product. We may offer a simple proof of this proposition, as follows: Suppose all commodities were blended into two complex ones of equal mass. Take for the standard of exchange a complex unit containing a half pound each of these masses. It is easy to show mathematically that if the two masses increase, *pari passu*, the total exchange value, referred to the standard of exchange, would be in direct ratio to the physical increase.[55]

Perhaps the following is more intelligible than the strictly mathematical method to the average reader: Blend the two commodity masses into a universal single complex. Having the standard of exchange already set off (one pound of this mass), it matters not that with a single utility mass, there would be no economic exchange. The expedient of obtaining the standard before resorting to the final act of blending enables us to get the

[53] Mr. Smart, at p. 33 of his *Theory of Value*, says: "Now one of the commonest phenomena of the market is that, *ceteris paribus*, increase of supply brings down value and decrease of supply sends it up." Mr. Smart also makes a chapter from Wieser's *Natural Value*, on the same theme, serve as an appendix to his own volume.

[54] J. S. Mill, *Principles of Political Economy*, Vol. I, p. 565.

[55] If anyone is interested in the mathematical proof of this proposition, he is referred to *Value in its Relation to Interest*, in the December, 1901, number of this *Journal*.

total of what would be called the exchange value, if the mass were again resolved into its elements. This true image of exchange value would be expressed by the weight in pounds. No matter what vagaries of value a few isolated elements might manifest, if detached, these idiosyncrasies are neutralized in the *ensemble*, so as to show a value increasing in proportion to mass.

The conception of marginal utility has been useful in that it has provided a function convenient in defining the zone of exchange value. But the marginal-utility principle set up for the ultimate determination of exchange value is inadequate and misleading.

The conclusions arrived at in this paper are in substantial accord with the older economists. The radical shifting in the view of value represented by the new school makes it seem not out of place to undertake to set the old doctrine in its true relation to modern terminology, which has necessitated some change in the classical formulation.

R. S. PADAN.

CHICAGO.

HISTORY OF THE WORKING CLASSES IN FRANCE, 1789–1870

M. Levasseur has issued two further volumes[1] as monumental in scope and compass as were the previous two dealing with the history of the laboring classes. In these latest volumes he treats the subject from 1789 to 1870 in great detail. The first volume discusses the period of some forty years from the Revolution of 1789 to the Revolution of 1830, and contains, as well might be expected, a tremendous amount of information such as the student of political economy and social science would have to hunt very far to find connected elsewhere. Workers in history as well as in economics can but feel sincere gratitude and admiration for the venerable author who has in this noble wise crowned his life-work.

M. Levasseur begins with pointing out that in 1780–86 the French government little knew how the foundations of the old structure of society were crumbling under the weight of new needs and the ideas of the century, although the condition of the treasury kept the ministers conscious of the pressing demand that something be done to close the constantly widening chasm of deficit. The king called upon the Estates to find some remedy for the prevailing financial disorder. The nation, however, in electing its representatives expected not only to remedy this evil, but to change the social order as well by overturning the absolute monarchy and establishing a society based on the freedom of the individual and on equality before the law. It was to be a peaceful revolution accomplished by the power of reason. The third estate was conscious of its rights and its strength, and became sure of its importance when the king accorded to it as many representatives as the two other estates combined. And it was the third estate which had the honor of speaking the loudest in favor of equality and the advantage of being able to join the authority of logic to the force of numbers. The electors of the third estate, however, did not represent all the commoners. In the cities the workmen had had no share in the vote, which was by corporations; hence their delegates were in many cases not considered by

[1] *Histoire des classes ouvrières et de l'industrie en France, de 1789 à 1870.* By E. Levasseur. Paris: Rousseau, 1904. 8vo, 2 vols., pp. xix + 740 and 906.

them as true representatives, and the poor artisans complained of having been rudely repulsed and their rights neglected. Thus the exclusion of what was already termed the fourth estate left its trace on the legislative work of the Constituent Assembly.

The first great acts toward establishing the coveted equality were the declaration of the night of August 4, and the principles of social reformation and abolition of privileges set forth in the Declaration of Liberties which followed. "Haec nox est . . . . ," as Camille Desmoulins puts it; "o vere beata nox!" And it must indeed have been a great moment, inspiring even to the coldest observer, however futile in its final results.

The *Constituante*, however, was there not only to pull down, but also to build up, and in order to meet the emergency a number of committees were formed among which were distributed the different branches of administrative and legislative work. As we follow M. Levasseur's account (pp. 14–76), we are amazed at the amount of hard thinking and creative planning this first Assembly, truly glorious with all its shortcomings, demanded from its committees. Each matter was generally introduced by an address by the representative whose specialty it was, and whose proposition, backed by the opinion of his colleagues in the committee, was used as the basis of debate, and often also of the decree which, with the king's reluctant sanction, became law for the land. The first matter of importance was taxation, and with a stroke of the pen, as it were, the Assembly abolished all the imposts and the dues which had made the life of the lower classes a burden and that of the nobility and clergy a sinecure. The treasury was to be reimbursed by taxes on property, on sundry other matters, and by duties on imports. The *Constituante* had a free field before it, none of the obstacles which had thwarted the plans of the monarchy now existing. Still it could not be helped that on the budget of 1791 — a budget, however, which M. Levasseur declares fictitious, since it was in reality quite different — the expenses outnumbered the receipts by some 180 millions. The *Constituante* lacked a true basis for its calculations of income and expense, inasmuch as the old tax registers were either lacking or incomplete. The fiscal troubles of the Assembly are, however, recounted at some length elsewhere.

Another question was the suppression of the corporations and the establishment of industrial liberty — a move instantly decided upon in spite of the loud demonstrations to the contrary from the camp of

the workmen themselves, who either did not understand the true bearing of the matter, or, as was quite likely, expected the millennium and the exploitation by themselves of the employers and the rest of society. The edict of Turgot was made the basis of the final decree. The expenses caused by reimbursing the masters, who had paid quite heavily for their privilege, amounted to a sum such as the strained exchequer could scarcely bear, but the Assembly bravely shouldered the obligation and issued the order for liquidation. That this order remained to a large extent a dead letter was due to the general financial ruin and the fluctuation of values caused by the *assignats*. But the Assembly is nevertheless to be commended for its courage. M. Levasseur describes graphically the whole proceeding (pp. 25, 26), which was marred only by the haste with which everything had to be done in order to have reform keep step with the impatience of the Assembly. The author thinks that no doubt many important interests were wounded and vested rights trod under foot. Industrial freedom was the supreme consideration before which everything must fall. The commercial barriers to the inland trade fell too. The field of labor was to be swept clear of the many obstacles with which it had been incumbered; prices were henceforth to be fixed only as buyer and seller agreed. For the protection of home production, however, import duties were established, and while there were voices that advocated a tariff liberal beyond anything known before, the Assembly as a whole inclined more the other way, especially in regard to the English trade — a tendency which found its marked expression in the Navigation Act of 1793. M. Levasseur points out that, owing to its hurry and the lack of preparation for such work as it was called upon to perform, the *Constituante* succeeded in accomplishing but a fraction of what it had aimed at in connection with the reorganization of commerce. This not from lack of interest, but from insufficient practical experience. But whatever it left undone, the things it did in establishing the principle of freedom and equal rights were of so vast an importance as to entitle it to an honorable place among all the constituent assemblies in history and to the gratitude of the generations which have since enjoyed the fruit of its work. To quote the author's words:

> Hence, while admitting the justice of a part of the criticism, we should recognize that when the *Constituante* retired it left man free to enjoy in full his rights; the land relieved of its burden, to be let, sold, exploited, by its owner, as he chose; all citizens equal before the law; all roads of labor open

> to all; obligations, at least in principle, equally distributed according to the faculty of each; France united under one administration, lacking in cohesive strength, it is true, and afflicted with disorders, but at least a nation — this was truly great work (p. 47).

The great passion for social equality which carried the Convention to the extent of proclaiming conditions impossible in almost any society, and particularly in one so broken up and torn asunder as was the French, was not the foible of the *Constituante*. It proclaimed political equality as the basis of further progress, and many disasters might no doubt have been averted had the experience gained by the men who sat in the first been utilized for the second and third Assemblies instead of opening the door wide for theories of the most extreme type.

In a special chapter (chap. 3) M. Levasseur discusses the sufferings of the laborers owing to the dearness of food and the scarcity of work, and the efforts of the Assembly to relieve the popular distress. The Assembly, however, in its eagerness to see the end of all privilege and whatever smacked of the old régime, had aggravated the trouble and heaped Ossa upon Pelion for itself by doing away with institutions which might have guided it, and it had now to grapple with problems which rose anew every day. Of these, providing for the masses on the one hand, and preventing, on the other, their forming into bands, which could but hinder the orderly reorganization, were the most pressing. Quelling riots in the country, where the famished and ignorant peasantry celebrated the arrival of liberty by committing every outrage on life and property, and in Paris reducing beggary by finding work for the idle, taxed its capacity to the limit. The general lack of ready money and the depreciation of currency, rather than the influence of foreign competition upon commerce, were no doubt at the bottom of the general distress of all classes and of the necessity for strict economy. Thousands of shops and factories closed, and people went idle, inflamed by the revolutionary ideas, and demanding to be fed and clothed by the new liberal order of things. This demand the National Assembly tried loyally to meet by establishing workshops, and within one year wasted many millions on a plan which could but prove a failure. Beggary, the leprosy of the old monarchy, increased at a frightful rate and afterward (during the Convention) no remedy lighter than deportation to the colonies was devised for the most persistent form of it.

Talleyrand, and afterward Condorcet, introduced a plan for public instruction which contained features such as obligatory education, equality of the sexes, and university extension — plans of which only the nineteenth century in its later decades has brought the realization. It was unfortunate that this plan remained but a project, the *Constituante* leaving its fulfilment for the Assembly which was to follow it.

As compared with the *Constituante,* M. Levasseur thinks the Convention presents but a bewildering change of men and political factions moving across the scene and a constant proclamation of more utopian doctrines. In his opinion, while there is more likeness than difference between the Legislative and the Convention, there is more difference than likeness between the Convention and the *Constituante.* The communistic theories advanced by Robespierre and his set of political ultraists found their chief expression in the peremptory edicts which decreed the burning of title deeds and vestiges of proprietary rights in the interest of the people and the confiscation of the movables and immovables of the emigrants. The *Constituante* had made the former tenant a proprietor; the Convention assigned to the commoners large shares of the lands of the nobles, and thus rooted democracy in French soil as it was already rooted in French institutions (p. 84). No wonder that the French peasant has a tender regard for the Revolution even in its cruelest moods, however greatly he would be opposed to a repetition of its excesses, which he still fears might once more dispossess him. The chief aim of the Convention was the establishment of public safety, and it thought to do this by annulling the old property rights and creating new ones in the hands of a numerous class of small owners. In view of the attachment of the French peasant to the soil, this was an instance of how the greatest benefit to the largest number might justify the violent and otherwise wholly unjustifiable method.

To insure the absolute freedom of industry, the Convention forbade the formation of companies or societies, even life-insurance companies. In its opinion they were all exploiting the public for private gain. But while the Revolution thus discouraged individual and collective enterprise, it nevertheless used its power to forbid workmen whom it needed to enrol in the army, and instead drafted them into factories of its own in order to supply the needs of the administration and the army. So that in the name of public safety the Convention played fast and loose with the same principles

it at other times advocated so passionately. Thus, while the Convention inaugurated a splendid and liberal system of public instruction from the primary grade to the teaching of the fine arts, and had some high-flown notions about the proper organization of public charities, in the author's opinion it lacked after all the true regard for liberty which had dignified the acts of the *Constituante* and given lasting value to the work. Savage tyranny is sometimes allied with the most ardent heroism, and patriotic fervor and elevated ideas were here mixed up with crimes and deeds of violence such as have not only compromised the history of this epoch in the eyes of all unbiased observers, but have had their sinister after-influence in making the course of political progress in France one of repeated *coup d'états*, as if reform were identical with terrorism and bloodshed. Measuring the economic enterprise of France today with what it was more than a century ago, the author has to make the confession, rather painful for a historian and a Frenchman, that, compared with other nations, she seems steadily on the decline — a conviction which he seems to ascribe to the prevailing political unrest and, if we are not mistaken, to socialistic agitation.

M. Levasseur's instructive chapter on the *assignats* we find impossible to reproduce here even in outline, since it is one of the longest in the volume (pp. 112–50), but we hope by omitting it to increase the desire for reading it in full, inasmuch as this subject is most important for an understanding of the perplexed state of French society, and we have never found it treated more in detail than here. The author nowhere in his elaborate statement suggests any possibility of the Assembly being influenced toward establishing a paper currency of so enormous dimensions by the financial experiments of the American Revolution, but seems to regard the plan as original. There are, however, so many points of likeness between the two projects, at least in their inauguration, that there is some justification for supposing a connection. The American bills of credit, indeed, seemed based upon a surer footing, although they proved in the end as dismal a failure as the French paper. It is a pity that Mirabeau, while referring in one of his speeches to the disastrous experiment of the Americans, made of it a saving rather than a condemning clause for the home plan (p. 145). It is the more a pity that he did so in order to wreck the influence of Necker and Dupont, whose experience and sagacity might have aided the Assembly. But who could make common-sense objections heard in the teeth of a gale of

oratory such as Mirabeau when roused was in the habit of producing! In the estimation of the Assembly, impatient to make France solvent with a single masterstroke and lift the load of debt, such objections as came from Necker and others, moderate and cautious, were but prosy and availed nothing where furious declamation alone made an impression. The sophisms of Mirabeau and Pétion flattered the ears and displayed hopes such as no sound financier could find in his heart to utter. The story of the subsequent enormous issue of paper, which finally became a matter of speculation with sharpers, as usual hawking in human misery, reads like an exaggerated account of the mad whirl during the days of Law. The author considers these events a subject for useful reflections for the generations which came after, while the generation which brought them on denied itself time to reflect upon what it was doing.

When in 1795 the Directory came into existence it had a hard struggle to make its way between two such formidable obstacles to the restoration of order and the revival of labor, as war without and financial distress within. No wonder it succumbed when it attempted to prolong the disorder which it was established to combat. Agitators like Babeuf exclaimed that the Revolution had disappointed the just expectations of the workingman (p. 252), and the insurrection planned to reinstate labor in its true rights was interrupted only by the execution of its chief apostle. The wind, as the author says, blew in another direction; balls and festivals, gaudy costumes and luxury, were the rage. Now it was even good style to be considered a royalist. The constitution was a dead letter — to be repeatedly violated. The military successes of Bonaparte absorbed all interest and made the Directory care little what happened. But the economic situation was not improved. The revolutionary odor seemed to hover about any financial plan of the government, and capital in the form of ready money fled the treasury. Of course, France was still in a state of insolvency, incapable of paying the debts of the old régime and even of liquidating the interest; and, as regards industry, neither patriotism nor individual enterprise had produced any intellect brilliant or bold enough to cope with the overwhelming odds. The taxes came in irregularly. M. Levasseur estimates that when in 1795 the Convention ceded the administration to the Directory, more than 143 million livres were due, of which not one sou even in *assignats* touched the treasury. Foreign commerce was almost destroyed by the wars. No wonder that Napoleon, and in fact all the republican

generals, maintained their armies solely by plunder and forced contributions. Enormous sums were sent to France and lost in the always empty treasury as in a bottomless depth. That some sort of equilibrium be established seemed an absolute necessity, and some of the old forms of taxation were resorted to even during the Convention. The Directory made some hesitating attempts in the same direction, even renewing the obsolete tax on windows and doors, and resorted to forced loans from the moneyed classes. Mismanagement of the resources of the state has been forever the bane of French prosperity, and the Directory, at first timidly, but later boldly, entered upon a long-trodden path.[2] Impoverished industry was not helped by the rigorous policy of the Directory in prohibiting English merchandise. The English blockade of some of the chief harbors prevented exportation, and quantities of goods lay idle on the quays. In many of the cities brigandage was quite common, and the roads were infested by thieves. Such conditions soon destroyed capital in a country where the accumulated wealth was no longer maintained and renewed by incessant toil. The author informs us that the years 1789–99 were a long and painful crisis for the industrial towns. A list of the emigrants and the deported during 1793–99 from one department only shows an overwhelming number of merchants and husbandmen (p. 262, n. 5). In every direction there was evidence of manufacture and labor being at a standstill. The efforts of the Directory to remedy the evils somewhat by encouraging new enterprise had no particular effect, because the effort was generally misdirected, and also because men found it easier to live on the bounty of the state. In the country districts as in the towns, wages had increased largely because of the withdrawal of able-bodied men for the wars. The town population had diminished, while that of the country had increased. In 1789 the population of France was twenty-six millions. Twelve years later it was but a little over a million more, and the increase was largely due to the improvement of the rural classes. In 1795 a sack of flour cost 60 livres in money and 500 in *assignats;* but prices were easily doubled, as M. Levasseur shows in an anecdote which, whether true or not, pictures the situation (p. 276). "The French Revolution seems to have been made for the French peasantry," says an English tourist whom the author quotes in full (p. 277).

During this period of depression and languor the first exhibition

[2] The whole list of taxes is given on p. 257.

took place in 1798 on the Champ de Mars in Paris. The minister of the interior was its instigator, and in his opening speech he referred with much feeling to the torch of Liberty which now cheered labor. The torch of Liberty, however, did not illuminate very gloriously a country which once had the lead in industry. The appeal came too late and but few responded. Inasmuch as industry was looked upon as an engine of war by the government, the twelve medals accorded suggest but little progress in handicraft or in production by machinery.

As for the relation between employers and workmen, discipline had been undermined by the general upheaval. The reign of terror had sought some of its victims among *les petites gens,* but had generally devoted its interest to holding in awe what it considered the intolerable pride of the higher classes. Workmen often banded together and terrorized the neighborhood, and the situation had not improved during the Directory. The wonder is that under the circumstances anyone had wherewith to live at all, and the supposition is that *might* entered into its old place of *right,* and that under the benign light of the torch of liberty, everyone appropriated whatever he found. Few scenes appear more hideous than this. Some arrests were made, but justice and police protection were administered but fitfully according to the temper of the magistrate or the faction in charge. In regard to the actual state of wages the author finds it impossible to render any definite account. The enormous variation in prices caused by the *assignats* makes it well-nigh impossible to establish any real scale. Where capital is scarce wages cannot rise rapidly, and, if a rise is noticeable, it is largely neutralized by the accompanying rise in price of the necessities of life. The scarcity of labor, if anything, should have sensibly affected the amount of wages in industry as elsewhere.

The author rounds out the picture with some statements about the pedagogic aspirations of the Convention in general and the Directory in particular. Public instruction, in fact, received much attention on the part of both bodies, and the interest of the municipalities in this all-important issue was stimulated as much as possible. As yet the zeal was not great, and public schools were not viewed with special favor by the lower classes, whether rural or urban. In the north of France, however, the situation seems to have been encouraging. The private schools, which were not as a rule favorable to the Revolution, had better success (pp. 283–88). On the whole, it cannot be

said that the work of the Revolution had met with particular favor in this, perhaps its greatest undertaking, at least during the period in question. Schools and social disturbances seem to be antagonistic in spirit and aim. Order, peace, and good government appear to be the soil wherein education is most likely to thrive and bear its most precious fruits.

The French Revolution can boast of three constitutions, each attempting to modify and improve the other. With the year 1799, the ascendency of Bonaparte to the sole power, and his policy of reconciliation, began the period of the reconstruction of authority in every department of state such as a constitution needs in order to prove effective. The creation of an efficient machinery of government by means of which France was actuated by one will, and under which no order remained ineffectual or disregarded, presented the other, and not less attractive side of the medal. The return to order was gratefully felt throughout France, and the immediate benefits were so great as to make all forget that this principle, too, might be carried to excess. The oppressive past was annulled, its traces obliterated, and a policy of peace was inaugurated which attracted a large number of emigrants. Only the republicans, in whom Bonaparte saw his most obdurate opponents, were treated with severity. By establishing responsible officers to collect and receive the taxes, funds were accumulated; for the first time interest on money began to be paid, and other timely measures re-established the credit of the state. Roads were repaired, canals were built, and bridges were reconstructed. Mounted police scoured the suspected districts, and within the short time of one year brigandage was effectively stamped out. The affection which Bonaparte inspired was, in the course of a few years, lost in the sacrifices which he demanded, and France came to regret the freedom she had given up so easily; but as yet the weariness was still in her limbs, and with the silence compelled by muzzling the press, and the prosperity of an efficient government, she kept her peace for eight years more. The codes, especially the civil code to which the name of Napoleon is attached, and in which are embodied the principles of the Revolution, were the most important part of this work of reconstruction. The regulation of taxes was another evidence of the zeal of the man at the helm. We leave to the reader the examination of the author's lucid presentation of the new imposts (pp. 326–29), as well as of the way in which the large cities, especially Paris, were provided for and famine averted.

Bonaparte knew from experience that nothing is more fraught with unwelcome consequences than scarcity of food combined with congestion of population (pp. 330–42), and it is only to be regretted that nothing better could be devised than returning to the regulations of the previous régime. The establishment of monopolies in certain branches of trade intervened between buyer and seller, and prevented free circulation even in so large a city as Paris. To illustrate the point, M. Levasseur introduces a comparison between the Roman Empire and the French, showing how in both instances fear of revolution caused direct intervention on the part of the administration, blocking individual initiative and causing still greater evils. During the famine of 1812 in Paris the government sold secretly from its stores, and thus brought on an aggravation of the panic (p. 341).

The views of the benefit of freedom and the drawback of monopoly change, and M. Levasseur tells us that the First Consul received numerous letters pleading for the restoration of the guilds so as to put an end to competition and prevent fraud. Napoleon's own opinion, however, formed itself but gradually. His love of order disposed him favorably toward regulation of trade, and yet as a son of the Revolution he wished to maintain the great principles it had established. Besides, he had seen enough to perceive that the true source of national wealth lies in the freedom of individual activity. Thus in the end industry was left free, and during the fourteen years of Napoleon's reign nothing was done to hamper the working of the principle (except when in the opinion of the imperial government the higher interests of the state demanded differently).

The author then proceeds to discuss the condition of the liberal professions, the university, the book trade, the theaters, and sundry other subjects, among which public credit, the banks, and especially the Bank of France, are of particular interest. The latter institution was a favorite with Napoleon, and for its future he had the most far-reaching plans (pp. 348–73). The re-establishment of public security and of credit infused fresh life into labor, and liberty had begun to bear its sweetest fruits when the conqueror's bellicose inclinations triumphed over the well-being of the nation. From the very first months of the new rule the regularity introduced into public service, the payment of interest in cash, and the creation of the Bank of France made money flow in and reduced the interest on loans. A contemporary said:

> This France is so rich and so industrious that hardly has the tempest ceased when all signs of misfortune are obliterated, the workshops are again filled, new ones started every day, and had commerce not been interrupted by war, her prosperity would have been beyond comparison greater than during the old monarchy's most brilliant periods (p. 398).

A society was formed for the encouragement of national industry, whose most indefatigable member was the First Consul himself, and on whose roll figured such names as Berthollet, Chaptal, Lasteyrie, and others. Insatiable in his thirst for information, inspecting in person enterprises started for the purpose of benefiting commerce, Napoleon during his whole reign maintained the same solicitude, and manifested it whenever his many other operations allowed him the leisure. The splendor of the imperial court, the annual exhibitions, the revival of ease and display so dear to the French heart, contributed toward animating industry; but many years were still needed before the wounds inflicted by the Revolution were healed, and the victories of Napoleon could not make up for dangers to commerce emanating from the perpetual state of war. Still, until 1811 these crises were but slight shadows. In 1806 the emperor commanded that an exhibition take place as a part of the festivities devoted to the celebration of the triumphs of the French army (pp. 407, 408). The success of the undertaking seems to have been such that Napoleon could exclaim with a confidence which was wholly sincere: "The moment of prosperity has come; who dare place the limit?" In achieving this result science had united with industry and produced new and astonishing results (pp. 411–47). The introduction of steam as motor power, the utilization of chemistry for the improvement and beautification of textile fabrics, and the new mode of weaving invented by Jacquart effected a great change in taste as well as in the methods of manufacturing silk, cotton, and linen. Mining and the elaboration of metals likewise received a great impetus, the author furnishing tables to show the extent and value of this branch of industry (pp. 426, 427). In 1806 more than 150 smelting works and foundries sent specimens to the exhibition. To agriculture M. Levasseur devotes but a short notice (p. 430); it seems in all its branches to have flourished beyond expectation. But to the returns from the textile industries, as the most important in which France had from olden time excelled, the author devotes many compact pages. The arts, too, received some encouragement, although Napoleon can never be considered a connoisseur nor a true

patron of art. It served to magnify his greatness, or the greatness of his success, as it had performed the same service to French rulers before, and thus in his estimation it admirably fulfilled its mission.

Of far greater consequence for the proper valuation of the Napoleonic régime is the impetus given to French commerce and the results of the continental system. Thirteen thousand four hundred leagues of road repaired or constructed, eighteen rivers made navigable, bridges built, tunnels and canals, Paris beautified — these were but the prelude to what the emperor expected finally to accomplish. He was impatient of delay and constantly planned new enterprises; marshes were drained, and schools were established for the better instruction of engineers. If Napoleon had but confined himself to governing France, what an excellent example of an efficient master-builder and entrepreneur he might have set by his prodigious activity and his just eye for her needs! He would have fully deserved the devotion with which his zeal was greeted by a gratified nation which had never quite known what it was to be well served by those who had assumed the scepter of command. But whatever he did for French internal commerce, he could not, with England and Germany against him, achieve for French commerce abroad. And his final decision to exclude English trade from the continent was but a two-edged sword which cut his own as much as it wounded the enemy's, and which will always appear to succeeding ages as the revival of barbarism. Napoleon's confiscations of English goods only too frequently smack of the ethics of a master-pirate. The decrees of Berlin and Milan were acts of merciless despotism by a man who knew he could triumph only by the spoliation of both friend and foe. An excuse may perhaps be found in the emperor's desire to make French industry independent. Particularly were his efforts directed toward the cotton trade. Experiments proved, however, that the cultivation of the cotton plant on French soil was, for commercial purposes, a failure. A plan for making sugar at home, in spite of all the inventive genius brought to bear upon the problem and the enthusiastic encouragement from the emperor, also failed to prove a commercial success. The experiments with the sugar beet, to the cultivation of which the emperor had assigned some 30,000 hectares, seemed nearer a happy outcome, but the experiment was interrupted by the war. The author calls this protracted commercial conflict a duel to the death between two adversaries determined not to give or demand quarter, and his remarks are characterized by fairness to both friend

and enemy. To the impartial observer it seems as if France's were the losing cause, and as if, with all Napoleon's obstinacy, England would have triumphed, owing to her maritime supremacy.

The Revolution had enriched the peasant class and made it more enlightened both in ideas and manners. New modes of cultivation began to be introduced, the number of vineyards increased, and also the number of acres laid out in the cultivation of the potato. Every inch of soil was utilized in one way or another, farms were well stocked, and food was plentiful. And as the peasantry felt secure and happy, so also the middle class, the city population, enjoyed liberties and opportunities unknown before. But industry lives partly from variation in luxuries, and as the nobles and the wealthy proprietors saw their fortune melt away under the confiscations of the Revolution, their purchasing power became paralyzed and luxuries became rarer. The consulate changed this somewhat, and the workman again assumed his customary duties. Still, in the eyes of the imperial government, the welfare of the working classes was of minor importance compared with that of industry. The workingman's personal liberty was restricted by police regulations, and the principle of subordination to his employer was established by law. The chains of apprenticeship had fallen, and the necessity of thoroughly learning a trade became henceforth a matter of personal choice rather than an obligation. Yet the number of apprentices seems not to have decreased, largely because of the greater need of ready help, and workmen now, often at their own expense, engaged an apprentice to work with them in the employer's shop. The quality of workmanship seems not to have suffered by the change, but the wage question is somewhat obscure. M. Levasseur again gives us a list of wages collected from different departments and industries (pp. 500, 501). During the empire, in certain fields of labor, wages rose rapidly because of greater demand. The working day, which during the Revolution had been twelve hours or more, remained somewhat the same, with the exception of the two hours of rest granted at meal times. In summer a mason earned from 3 to 5 francs in Paris, a skilled carpenter 3 francs, a painter 4. Elsewhere wages were probably lower. The report in March, 1807, of the prefect of police in regard to the prevailing salaries in Paris is well worth reading (p. 502). The limited space prevents us from reproducing it here. According to a contemporary statement, the average of wages was 30 sous a day for artisans, as compared with 20 before

1789. As we perceive, not an extraordinary increase! The drafting of soldiers and the movement of the population kept prices up. The youth of the land, from twenty to twenty-five years of age, and later even younger, was taken away to be scattered broadcast over the battlefields from Cadiz to Moscow. But the greater demand for workmen facilitated marriages, and mortality and births seem for a while to have kept pace better. The year 1809 marked the height of prosperity, and during this year were registered 185,000 more births than deaths. A list gives the increase of population for every year during 1800–14 (p. 505). The young men evaded the duty of enlisting for a murderous war by marrying early, and in 1813 there were 165,000 marriages more than in the previous year. The dread of military service rested like a black cloud over the laboring classes. During the Revolution there had been voluntary enlistment owing to patriotic enthusiasm. During the empire, in spite of the instinctive bravery of Frenchmen, the hardships of war and the rumor of battles from which nobody ever returned caused wholesale desertion, and parents, friends, and employers aided in concealing the refractory recruits and caused the imperial government to use such rigor as to make itself cursed in the homes and bitterly hated by the workingmen. Another cause of discontent was the crisis with which the imperial government ended, and which centered in the capital. Of the more than 60,000 workmen fully one-third went idle. Workshops were again opened, but they were but a palliative, and the idlers came dangerously near creating a revolt. From 1794 to 1814 nearly a hundred societies for mutual aid and improvement were founded in Paris and other cities, but seem not to have accomplished much. The reports of the prefect of police speak of some 90,000 workmen in Paris alone divided into branches or trades. To all of them he ascribes many sins and few virtues. But, as has already been pointed out, the government cared little how the workman fared, as long as he was not in want of work — this safest remedy for all social evils. Trade unions were still in existence, keeping intact their customs and their abuses. But, in spite of turbulence of manner, they were on the whole composed of honest fellows who kept the bad elements out and were helpful to the unfortunate. Their rites and customs the author describes quite fully (pp. 513–19). As for the personal attitude of the emperor toward the working classes, the author thinks him neither indifferent nor hostile to their welfare. He even had now and then a word to

say which showed they were not forgotten. But the age was weary of theories, and the workmen themselves not being sufficiently enlightened seriously to advocate their own interests, the educated classes turned their attention elsewhere, and Napoleon was in this particular neither better nor worse than the rest. While active in aiding the charities and in establishing better care of the sick (having so many invalids by the war to provide for), the imperial government showed itself severe in all cases of vagabondage and beggary. Beggars and tramps were either sent to houses of correction or deported as before. Imprisonment from three to six months was the general form of punishment, which in cases of beggary might be extended even to two years, if the beggar was arrested outside his canton. Yet even the empire was not without a feeling of restraint in the matter, and depots — half hospitals, half prisons — were established where the beggar was detained and compelled to work. Unfortunately, these workhouses quickly became schools of theft and debauchery, and served to hinder rather than to help the free industry. What was needed was to raise the moral level of the lower classes, and for such instruction also Napoleon was destined to do a great deal. The author considers his recalling the Christian Brethren and the Sisters of St. Charles his greatest act. Especially after his return from Elba Napoleon would have done even more, if he had had the time. But, as it was, the imperial system remained incomplete in the matter of popular instruction.

M. Levasseur finishes the volume with a special book devoted to the Restoration, the most important portion of which is the chapter discussing the opposition among the laboring classes. But we can call attention only to his treatment of the events and movements which caused the July Revolution, especially the revolution in ideas caused by the beginning of social studies and of political economy, the doctrines of St. Simonism, of Fourier, and of the other social utopists, with a very full account of which, and with a very fair-minded and correct estimate of their scientific and moral value, this first volume most properly ends.

M. Levasseur's second volume treats of the remaining forty years from the July Revolution to the Franco-Prussian War — a period with which the greater portion of the reading public is probably more familiar than with the foregoing. The same qualities for which we commended the first volume, and, in fact all the volumes of this his-

tory, are in fullest measure present also in this. M. Levasseur in speaking of the causes of the July upheaval, thinks that the Bourbons, in spite of being strangers to the new France, might at least have given her the two blessings denied her during the reign of Napoleon —the blessings of peace and of constitutional liberty; but they unfortunately failed in the end to do either. The press was muzzled from the very start, and the danger, overwhelming at first to the small proprietors, of having their lands taken away and given to the emigrant nobles served to estrange this large class from the new government. Although it did what it could for the furthering of commerce, the Bourbon administration was hampered by the antiquated notion that everything was there to serve the welfare of the government rather than the governed. The reactionary tendency irritated all classes, and the government, catering in its commercial policy to certain favored interests, created ill-concealed disgust. Yet France flourished, savings banks were founded, instruction improved, and the government showed itself charitable and sympathetic toward suffering. In spite of prosperity and the pleasing illusion which the Bourbons entertained of their wise rule being the sole cause of good times, their government was looked upon with antipathy by the laboring classes. Some of the prejudices of the latter were unreasonable, but while the empire gave them at least the appearance of sharing in the glory which fell to the nation, the Restoration offered them nothing. When the Bourbons returned the second time, this feeling was aggravated by the government not daring to punish crimes committed from party hatred, and from which the Bonapartists had especially suffered. After 1815 there was nothing but dislike for the king among the masses. The return of the Jesuits and the rise of clericalism and its effects on the policy of Charles X. merely clinched matters. As far as France was concerned, it was to her as if the world had been moved seventy-five years back, and as if all that had happened since 1787 had been dexterously effaced. The political conflict which caused the July Revolution is so well known that we need not refer to it here, and, however greatly the violence must be deplored which accompanies such upheavals, the fault unquestionably lies at the door of those who violated the spirit of the charter rather than with those who felt the situation fast becoming intolerable and who acted in consequence. It was a revolution for ideas rather than hard and fast political principles, and it was the working classes which started it with the purpose in mind of re-establishing the

republic. Again, the result fell short of the object fought for. Whether by trickery or from lack of decision, the power fell to the younger branch of the detested family, and it was declared that what France needed was a popular monarchy surrounded by republican institutions. The republicans being greatly in the minority, the situation had to be accepted, even without the republican institutions or the popular monarchy. It is a fact repeatedly stated, and as often forgotten, that neither commerce nor industry ever gains anything from revolutions, and the many riots afterward were not due half as much to political disappointment as to lack of work (pp. 6–16). M. Levasseur devotes considerable attention to the part played now and later in the labor question by the St. Simonists, Père Enfantin, Fourier, and others. His description of these men and their propaganda is indeed the most complete we have so far met with (pp. 16–65). These socialistic doctrines and the debates of the French economists met with little interest from the ruling classes, however, and the February Revolution was at their door before the latter were clearly aware of whither the current had been running.

The government of Louis Philippe maintained the broad lines of commercial and industrial legislation laid down by the empire and accepted by the Restoration. The particular interests represented by the rich manufacturers and the bourgeoisie triumphed over the good of all, and although some minister sought the happy medium and tried to find out the truth by making inquiries as to the general opinion, the compelling power of the other tendency was so great that his moderate policy exercised but little influence on the modification of duties and the reduction of the tariff. On the continent protection was supreme, in spite of the fact that England, a rich country, had opened its ports to the commerce of all and was constantly growing richer. The ideas of free trade found an echo among French economists, but, in the face of the hostility of the working classes and the general indifference of the public, their arguments effected nothing. The doubling of French commerce from 1825 to 1847 seemed, indeed, to vindicate the wisdom of the other side (p. 92).

M. Levasseur next treats of the railroads — a subject we seldom find given the attention it deserves. The introduction of steam accelerated everything. At the same time, we find the government doing a great deal for the extension and perfection of the system of roads and canals; and for this reason many other faults of the Bourbon régime may readily be forgiven. The same administration,

however, could not help hindering transportation by minute regulations as to the kind of vehicle and the size of the load permitted to pass on the beautiful roads, thus increasing the cost of goods for the consumer. The author gives a long review of the beginnings of railroads and steam navigation (pp. 97–117), the first railroad being started by a private concern, and the government confining its activity largely to making a close inspection of the proposed routes. A note (p. 102) contains the concessions given during the reign of Louis Philippe. Numerous experts and writers of note advocated the extension of the system of roads, and the matter was thus steadily kept before the public. Still voices of doubt were as frequently heard as to the safety of such investments. Blanqui in 1838 declared himself convinced that this mode of transport would be found too expensive to attract much merchandise, and that the peasant would rather travel on foot with his burden, notwithstanding the attraction of speed. His opinion and that of the minister of commerce are both instructive reading (p. 107). Today it is a fact that the agricultural population with preference employs the railroads both for carrying their produce and for traveling themselves. *(Tempora enim mutantur, et nos mutamur in illis!)* The remark of Arago that, owing to the low temperature in tunnels, people were thrown from heat into sudden cold and made subject to pulmonary diseases (p. 108) is quite a sample of an immoderate fear of the unknown invoking specters, if nothing else does. From 1837 to 1847 enormous sums were spent on the encouragement of railroad-building, and probably may, from 1842 on, account to some degree for the annual deficit in the budget. The employment thus offered a large number of people, the acceleration and concentration of trade, and the useful occupation of energy and capital benefited France beyond expectation, while the accompanying evils were as yet less visible.

In a following chapter the author records the legislation in the interest of industry, especially the measures taken by the Assembly to protect children in factories and in the mines. At first it was proposed that administrative supervision should penetrate both to the workshop and the family hearthstone. The friends of freedom, however, warned against interfering with parental authority and complained of intolerable officiousness on the part of the government. Although the evil of child labor was not so widespread nor of so dreadful a character as in England, yet it existed, and the ministry had ordered an inquiry as early as 1839. The law voted in 1841,

owing to the resistance on the part of the manufacturers, remained but one of many half-measures which soon became a neglected letter, and before it could be improved the February Revolution interfered.

Whatever faults the July monarchy possessed — and its adversaries assure us it had serious ones — M. Levasseur thinks it gave the laboring classes the greatest of all blessings — regular and systematic instruction (chap. 5). The question had been agitated during the Restoration, and it had been truly said that it was not enough to teach children to read and to write and count, and that their knowledge must be raised to a higher level before they could boast true enlightenment. The new government hastened to increase the number of primary schools by voting twice as much money as before for public instruction. The law of 1833, which bears the name of Guizot, and which our author calls a monument to French civilization, made provision for primary education of a lower and a higher grade, leaving opportunity for future growth according to need. Each commune was instructed to keep an elementary school of inferior grade, while all with more than 6,000 souls should besides have one of higher order, and every department should support a primary normal school for the education of teachers. M. Levasseur describes very lucidly the progress of education in France during this period, and although the plans of M. Guizot have since been severely criticised, he thinks they gave all that in reason could be demanded. At the end of the reign of Louis Philippe three and a half million children of both sexes were registered in the public and private primaries, as compared with 1,937,000 in 1832. The number of schools rose from 39,460 in 1840 to 63,000 in 1847.

The following chapter, treating of the commercial crises of 1830 and 1837, of the exhibitions and their influence upon industry, we feel constrained to leave out, and proceed instead to what is said of the condition of society and the well-being of the workmen. The statistics published for the years 1840-45 were the first comprehensive ones of their kind and covered some sixty departments, Paris excluded. Within these it was estimated that there were 47,390 industrial concerns occupying each at least ten workmen, their value estimated at 34 millions, and their production at 3,648 millions. Whether this be correct or perhaps somewhat overestimated, the total certainly was encouraging, especially since the number of workshops employing less than ten workmen were not taken into account. Further inquiry established the distribution of different industries among the cities

(pp. 212, 213). The condition of the apprentice seems to have remained very much the same. In 1848 there were in Paris 19,114 apprentices — one apprentice for every seventeen workmen — their apprenticeship lasting from two to five years. Only one-fifth worked under written contract, and verbal agreements were on the whole much disregarded. Apprentices were scarcely employed beyond the lesser industries. Children occupied in factories as a kind of apprentices received wages. The apprentice was no longer under the supervision of the master, and in 1828 a society was formed to come to the aid of poor young boys who needed a home and an education fitted to their social position. To make honest fellows of them, industrious artisans and Christians — in one word, men — was the ultimate object of this aid. Children without family were given their board and lodging, those with a family were simply assisted, and every Sunday all were gathered in the "home."

Savings banks were much favored by the July monarchy, the law of June 5, 1835, making them into a national institution. Arrangements made it easy for workmen who wandered about to change their savings from one bank to another. Three thousand francs were placed as the limit of the deposits of each depositor, but this amount was afterward considerably reduced. The treasury was charged with the payment of interest, which created a danger by thus allowing an indefinite increase of the floating debt. This mistake, however, was corrected afterward. In 1848 there were 1,364 savings banks, with some 200 filials, and the chief towns of every department each had one. January 1, 1848, there were 736,951 depositors, to whose credit stood the respectable sum of 358 million francs. This, if nothing else, should indicate the growing independence of the workingman, especially at a time when lotteries were still in vogue and many might thus be tempted to waste their savings. The author thinks that with a better organization labor might have benefited from a portion of this capital, if prudently invested. But in the hands of the government it was a constant embarrassment — a debt liable to be called in at a week's notice, and therefore a matter of great expense. Mutual-aid societies answered to more immediate needs, and the number seems to have increased very rapidly. In 1847 alone there were 2,056 of them, with a savings-bank account of more than five and a half millions.

The author has much to say about the moral condition of the working population. Weak in itself, it was surrounded by corrup-

tion and vice, and thus easily led to debauchery and crime. Philanthropists contemplated with terror that in ten industrial departments out of 10,000 young people, 9,930 could not pass inquiry as to morality, as compared with 4,029 in ten agricultural departments. It was, however, not just to throw the responsibility for this low state of moral condition on the congestion of population in the cities, or on the dangers and hardships of modern industry. Many employers indeed aggravated matters by their greed and evil example; others, and these often the most well-to-do, spent a large portion of their fortune on making the life of their workmen profitable both in regard to mind and body. Some were inclined to ascribe the lamentable lack of moral restraint to the new education which created in the workman desires which his condition did not permit him to satisfy. The author tells us that from 1828 to 1840 the number of workmen who knew how to read and write rose to 52 per cent., while the number of persons of the same class accused of crime fell (we take it) to 18 per cent. Hence instruction helped to avoid temptations rather than otherwise. In this connection the author notes the first formation of co-operative labor largely brought on by the strikes and the counter-combinations on the part of the employers. Buchez's constant preachings of the usefulness of association among the otherwise helpless workmen had much to do with it (p. 249). These associations, however, were more in the nature of syndicates with an inalienable capital formed in order to take up the fight with the employers and try to worst them. Several of these concerns did well at first, but in the end did not know how to handle the trade; hence their clients paid them badly, and they went into bankruptcy (pp. 249–51).

The question of well-being has an intimate relation to morality, but both are surely in a pronounced degree dependent upon the matter of wages. At least during 1841 in a number of industries wages seem to have varied between 1.50 and 2.50 francs per day. Four years later, according to general estimate, wages averaged 2.50 francs for men and 1.25 francs for women (with the usual variations according to place and occupation). Almost all kinds of wages were affected by the crisis of 1848, and an approximate statement gives 1.78 francs for men, 0.77 for women, and 0.50 for children. In very few departments women's salary rose as high as 1 franc, and there were cantons where wages were but 60 centimes. Besides reducing wages, the crisis reduced the number of wage-earners as well (p.

265). In 1837 at Sedan 12,500 weavers were employed at an average of 2.50 francs; the crisis of 1830–31 reduced the number to 5,000, and the wages to 1.50 francs. Industry again picked up, but in 1835 there was again a reduction to 9,000 workmen at 1.50 francs. Thousands of workmen were repeatedly left in a state of need, which private and public charity succeeded only imperfectly in relieving. M. Levasseur thinks that even when the workmen received good wages, as in a city, lodging, food, and clothing soon reduced his earnings to a minimum; and, however often statistics attempted to frame his budget for him, in spite of his thirteen to fifteen hours of work, it almost always was compelled to end with a deficit (pp. 271–75). Toward the end of the Restoration period 720 francs a year seem to have been the living average. During the time of Louis Philippe it was estimated that with 760 francs a family of five persons were in a state verging on misery, and with a hundred more would get through comfortably. Others, however, considered 860 francs insufficient in large cities. Five hundred and two francs was considered the lowest estimate of cost of living for a bachelor, and 750 for a married couple without children. Taking the medium, from 400 to 800 francs seem to have been the limits of what a workingman might expect to be able to get along on. To reduce the lodging expenses, the workmen with their families clustered in unhealthy hovels, paying every week in advance for the miserable dens where children died as soon as they were born. The worst factory was counted a more attractive place than these squalid holes. Nevertheless, considering France as a whole, mortality was not so great as might be feared — 25 per 1,000 during 1821–40, and only 23.3 during 1841–50. Compared with these are 30.8 births during 1820–30, 29 during 1831–40, and 27.4 during 1841–50 (p. 277). At the same time, food inclined to become cheaper. The harvests during the reign of Louis Philippe had several times gone beyond everything hitherto recorded (more than 80 million hectoliters in 1840 and 1846), and at least the staple of life was present in plenty for the common people. In Rheims, the author tells us, they had excellent bread and meat twice a week. In the country everything was even cheaper. In the cities consumption of bread and meat, and of other articles, such as wine, sugar, coffee, and tobacco, which to Frenchmen are among the necessities of life, increased, especially in Paris — a good sign! Enterprises grew in number, and the issue of licenses increased from 1,133,000 in 1832 to 1,517,000 in 1843. The

census of 1851 recorded 1,331,260 individuals engaged in industry on a large scale, of whom 124,133 were masters, 675,670 workmen, apprentices, or clerks, and 531,437 women; 4,713,026 persons were engaged in the lesser industries — altogether, 6,044,286 persons. Thus in the large industries there were some ten workmen to each employer, while in the smaller branches there were probably not more than four. M. Levasseur closes the chapter with a comparison between the industrial condition under Louis XVI. and under Louis Philippe, and with a brief discussion of the political situation which reveals the unpopularity of the government, especially among the masses. Louis Philippe soon found how mistaken he was when he thought he held all France in the hollow of his hand, because he fancied himself secure in the majority of the chamber. De Tocqueville had already sounded the alarm and warned that revolution was not far off. "France was asleep on a volcano."

For the remainder of the volume it is necessary to be very brief. What follows is generally too well known. To hold the affections of the masses, the socialistic revolution of 1848 had, upon the instigation of Louis Blanc, created a labor commission. This commission met for the first time March 1, established a ten-hour working day, and acted as arbiter between the workmen and the employers, the latter being frightened by this headlong march of events. The ideas of Louis Blanc triumphed for a time and gained for the famous agitator the election to the new *Constituante*. Other popular measures followed, imposts were sacrificed, and the treasury was again to be reimbursed by an income tax which would especially affect the wealthier classes, and which eventually succeeded in alienating both these and the landed proprietors from the cause of the revolution. The workmen showed their willingness to support the treasury with their purse; but what could a couple of hundred thousand, or even millions, do for a government which above all things needed funds? Owing to the split in its midst, the provisional government could do nothing, and resigned. M. Levasseur considers the Revolution of 1848 almost an accident, which, however, had serious consequences, and at least created one important change in French institutions — that of universal suffrage. In this connection he recounts the financial crisis which ruined the cause of the savings banks as national institutions and caused the failure of a great many. The provisional government called in all outstanding money and decreed the immediate establishment of national workshops. The battle in the streets,

and the declaration of General Cavaignac that order had triumphed over anarchy, is very interesting reading (pp. 383–94). M. Levasseur, on the whole, gives much space to the political events which crowded the epoch, and wherein, for all we know, he may not have played the part of a mere spectator. It is certain that the news of the rising of the populace came as a breath of fresh air to all Europe, and in Paris, where the violence of discussion set all opinions free, it was like a stormwind clearing an overheated and sluggish atmosphere. The theory of the freedom of labor, however, did not disappear with the national workshops; explanations and remedies for the evils of the time crossed one another like flashes from an electric battery. The Assembly, in whose inexperienced hands it was given to make a new departure in economics, lacked unity and preciseness of ideas. It repulsed socialism and had the instinct of liberty without understanding its elements. The new constitution contained a great deal about liberty, and surely none ever showed greater solicitude for the rights and the welfare of the people; but the work was but half performed, and the adjustment of principle to life was left to future generations. The peculiar seething condition of French society and the dread of the revolutionary tendencies of the lower classes are evident, and it is a peculiar perversity of circumstance that in France reform never seems to penetrate more than skin-deep. Perhaps it is the susceptibility of French commerce to crises and the loudness of the complaints uttered which make the history of the labor movement in France singularly exhausting reading. The socialistic propaganda was nowhere more clamorous than during this period. The Assembly, however, soon undertook its reforms without even consulting this faction. M. Levasseur considers the work of the *Constituante* liberal and even charitable toward the masses to a degree never before witnessed; yet it was without real understanding of how to employ the right methods, and was inclined to reactionary measures, especially after the riot of June 13, 1849. Again, industry assumed somewhat its former aspect. The rupture between the Chamber and the prince president, who appealed to the masses, ended the republic, and left to the second empire its heritage of universal suffrage and interest in and care for the welfare of the laboring masses — or, as the author expresses it, the largest number.

We pass by the recital of the *coup d'état*, and the revival of the Napoleonic ideas which had so singularly professed the cult of liberty and denied its essence. The new autocrat had a following among the

country people, the city middle class, and the workmen, as well as the support of the clerical party. The spirit of enterprise, which above all demands a strong government, again revived, and France saw the establishment of great institutes of credit. The wars extended the influence of French capital even when they strained its resources. Yet France scored her greatest triumph in the splendid commercial and industrial advance within her own borders. Education was furthered by the ceaseless energy of an excellent minister. But the laboring classes were not dazzled; they considered themselves slighted by the emperor's rather ambiguous policy, and remained indifferent, and even hostile, to his advances.

What especially characterized legislation on labor during the second empire was the desire to strengthen authority while loosening the bonds of industry. A decree forbade the opening of a tavern without permission, and the prefect had the power to close any establishment deemed hostile to public security. But butchers and bakers were relieved from the limitations which had hitherto hampered their trade, and the result was neither a fall nor a rise in prices, but an increase in consumption — 113 million kilograms in 1864 as compared with 52 millions in 1849; and bakeries grew rapidly in numbers, there being no less than 305, including bread depots, in Paris alone. Common bread was subject to a stable price, but thrifty bakers made their profit in pastry. The right of workmen to form associations for their improvement was conceded. The law of 1864 acknowledged freedom of association, but strict repression of violence and fraud. The law, however, was badly received by the propertied classes, and scarcely less so by the workmen themselves, whom their political organs had made suspicious toward anything, whether good or bad, emanating from the government. M. Levasseur very ably presents the pros and cons of the question (pp. 510–20). He devotes a lengthy chapter to the expositions, and the growth of science and invention, and then proceeds to discuss the treaties which reduced the duties on raw material and supplied the population with cheaper bread at the time of bad harvests. The emperor himself evidently favored free trade, or what was nearly so (p. 589), and the author considers the vastness of his scheme its chief drawback. But while the Chamber yielded, the upper house stood firm, and the minister had his project returned for reconsideration (pp. 593–611). The liberal policy of the government naturally caused great changes in the various industries which had grown up

in the shadow of protection and were as yet not fitted to take up competition with foreign production. M. Levasseur truly says that protection left to itself is condemned to perpetuity. As capital became more widely engaged and large enterprises were started, production naturally strove toward increased cheapness in order to hold its own in the foreign and the home market. The author gives us an idea of the battles fought in the Chamber during 1868 and 1870 between the two camps. The chapter closes with a statistic survey of the duties imposed and the growth of industry.

Industry creates concentration of productive power and of the people who do the work. While in 1846 the total population of the eighty-six departments had been nearly 35½ million, in 1866 it was almost 2 million more — an increase of which the cities chiefly got the benefit, not only absorbing the actual surplus, but drawing from the agricultural districts as well. In 1846 there were, besides Paris, only three cities with 100,000 inhabitants, and their 1,540,000 represented 4.03 per cent. of the total population of France. Twenty years afterward eight cities claimed to be in this category, with 3,126,000 inhabitants — that is, 8.21 of the total. Of the 600,751 inhabitants which France gained during 1861–66, 458,421 lived in cities of more than 10,000. Until 1846 there had been but twelve departments whose population was on the decrease, during 1846–51 there were twenty-two such, and 1851–66 their number was respectively fifty-four, fifty-seven, and fifty-eight. The author goes on to state that the increase in the population of Paris in 1866 amounted almost to two million souls. The chief attractions of city life were the higher wages, the greater opportunity for work, and, added to other things, the opportunity for pleasure, good or evil; for the people, like children, love *fêtes*. The old trade unions seemed for a while doomed to extinction; but in 1842 and 1853 they saw a revival under a somewhat changed order of life, although with the same chief purpose of mutual assistance. Labor associations for the purpose of buying at wholesale and more cheaply (the German *Konsumvereine*) and societies for aid in finding employment were new phases of the gradual organization of labor. There were also co-operative concerns, spoken of before, where the workmen were their own employers, dividing the profits. These, however, were rarely a success, and the workmen complained that the law frequently placed greater difficulty in the way of the poor laborers' union, established for whatever purpose, than in that of the employers forming their

syndicates for the exploitation of the public. The liabilities of these societies before the law possess some importance (pp. 632–38). The last stage in the development was the formation of the international labor union promulgated by the meeting of delegates from all nations in London in 1864. But the International was paralyzed from the start by sectionalism and the prevalence of the communistic ideas, and was doomed to be but a monster demonstration of the most far-reaching and least practical phases of the labor movement (pp. 641–51).

The industrial system has enriched society, but it has condemned large portions of the working population to a precarious and often miserable existence. M. Levasseur wonders whether, all things being equal, the workman's condition has really been improved. The thick dust of the factory clogs the breath, the heat rises to an insuperable height. Every moment he is exposed to danger to life or limb. He is compelled to stand up till he is ready to drop with fatigue. Women and children quickly succumb to infirmities, and there is hardly an occupation which does not expose the laborer to some malady or accident which may forever impair his strength or ruin his health. Life is nowhere easy, but a struggle against misery which man can conquer only by using his mental and physical faculties. What keeps the country laborer in health in spite of his scant fare is the good fresh air. And for the laborer in the factory, good wages, good food, and warm clothing, supplemented by sanitation in general, may counterbalance his hardships. Precautions began, indeed, to be taken by the manufacturers; thus machinery was fenced, but they were as yet not so general as they should have been, and in the mines there were none at all. As far as the homes were concerned, horrifying details, which seemed as if taken out of sensational story-books, were of the commonest order, and here the exhausted workman spent his hours of leisure, slept, lived, and died, if life in these circumstances was not in itself death. M. Levasseur, however, hastens to tell us that this was but the extreme and an exception rather than the rule. But often, even with the utmost industry, a shortage was the general result, and in cases of sickness the situation was deplorable. The question of wages for this period is complicated by the general rise in prices. From 1848 to 1870 the monetary situation was materially changed by the large amount coming from the gold mines in California and Australia, and prices rose as much as 15 per cent. for manufactured goods and 67 per cent. for natural

products. In 1857 many articles suddenly fell in price owing to speculation, or rose according to scarcity of supply. Lodgings, however, rose rapidly and remained high. After 1864 matters somewhat recovered their equilibrium, but the subsequent rise in wages really meant little or nothing (pp. 706–37).

The author's next subject is that of education, the most important phase of which was still primary instruction. In 1850 there were 60,579 primary schools; in 1863, some 8,000 more. At this time 36,854 communes had schools. Girls' schools had increased to 6,000. The number of pupils had grown to more than four million in 1863. Public schools had gained 800,000 pupils, and private ones 200,000; lay schools had 376,000, and those kept by the religionists 588,000. In his memoir of December 21, 1864, Duruy stated that the 17,206 schools of the religionists contained 1,610,673 pupils (which may give some idea of the magnitude of the present agitation in France). That the instruction of girls, especially among the lower classes, was hardly inferior to that of the boys, the author considers of greatest importance for the moral improvement of the nation. Americans will appreciate his remarks about the value of the school as an asylum from evil habits, and where propriety and social virtues may properly be inculcated. Yet, in spite of the large ciphers and after thirty years of efforts, France did not occupy the place in regard to popular education which belonged to a great nation, and the author compares her in this respect with other states on the continent, to Scandinavia, England, and the United States. Primary instruction in France as elsewhere had its opponents who, in conformity with the time-honored views of Governor Berkeley, thought education not conducive to submissiveness. While in 1827–29 of 100 recruits 44.8 were able to read and write, in 1866–68 there were 78.6, and, after the downfall of the empire 1876–80, the number had increased to 84.8. In certain portions of France this encouraging result was even surpassed. With the ministry of Duruy education became at once obligatory and gratuitous. His reforms are interesting reading (pp. 750–66).

In a particular chapter M. Levasseur discusses the morals of the laboring class, whose faults he finds to be everywhere the same — drunkenness and indecency (pp. 767–85); and he touches besides upon the condition of the apprentices who, because of the cost of lodgings, were now housed by the masters under their own roof. The period of instruction was greatly shortened and the fitness of the worker correspondingly reduced. The sense of personal dignity had

increased among the workmen, the fear of their superiors disappeared, and, while they became emancipated, they became also restive and even defiant. Universal suffrage gave into the hands of the workman a weapon which changed his character. He now saw the solicitous care of the government concentrated upon him, upon his weal and woe, and, like all powers, he had his flatterers. This was especially the case during the second republic, but even afterward he remained someone to be counted with. He was courted for his vote. He understood his importance and wanted his weight to be felt. Influenced by the new doctrines and the taste for reading, the workmen spoke of the tyranny of capital, and dreamt of a social condition where there should be neither bourgeois nor proletarian, neither patrons nor workmen. The public libraries aided him in gaining a wider view in other directions as well, although the quantity of his reading was often superior to its quality.

M. Levasseur concludes the volume with a comprehensive summing up in broad statements of what he has previously taken such pains to verify in detail. His method of presenting his subject gives his history more the character of a report, with specifications attached, than that of a general narrative with facts grouped subordinate to a partly scientific, partly æsthetic principle; yet no one can say that he has neglected either the facts or the placing of them against their proper background of historical conditions and events. It is not for us to bestow praise upon an author of such renown for completeness of research and sanity of view, and we can only say that M. Levasseur has created a work of truly absorbing interest to every student.

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NOTES

COST HISTORY AND COST THEORY[1]

Taken as a whole, this work of Mr. Whittaker strikes one as, in history, in criticism, and in exposition, the best treatment of the cost-value doctrine that has yet appeared. Thus, where there is so much to commend and so little to regret, the reviewer's task is much more easily and shortly performed in confining the discussion to points where dissent is to be expressed.

It may perhaps be safely assumed that in declaring as absolutely essential the principle that "the value of an object is not derived from the sacrifices made to obtain it; on the contrary, we make the sacrifice because the object has value" (p. 144) — Mr. Whittaker has, mostly or exclusively, subjective value in mind; at all events, he does not appear to question the cost principle as applied to exchange value, unless perhaps for its superficiality.

But, taken as a doctrine purely in the subjective-value field, is it true that value is fundamental to cost? It is to be admitted that the Austrians — whose use of the term is here definitive, since they are the inventors and sponsors of it — have, for most purposes, made marginal utility and subjective value interchangeable concepts. Subjective *Wert* in Austrian thought is to be understood as a non-relative thing — the felt dependence upon a good regarded as the necessary condition to an absolute magnitude of feeling.

But that the marginal utility of a good and the subjective value of it are commonly equivalent concepts leaves it none the less true that, where marginal utility and the burden of replacement do not coincide in importance for feeling — the burden being smaller than the service — the subjective value falls to the second level, the cost level. This is to make subjective value in some cases a question, not of utility but of dis-utility — not of service, but of cost. And, in fact, the concept or subjective value as the derivative or equivalent of marginal utility is itself, in last analysis, a cost concept; for what

[1] *History and Criticism of the Labor Theory of Value in English Political Economy.* By Albert C. Whittaker. (Columbia University Studies, Vol. XIX, No. 2.)

is the law of substitution, by which each item in a stock of similar goods takes on the importance of the marginal item, but a case of sacrifice? The case where the loss in terms of service can be replaced through the expenditure of a less significant sum of labor — the subjective worth therefore falling to the sacrifice level — is merely an extension and application of this cost law underlying the entire concept of subjective value; it is simply a case where the marginal utility takes on subjective value according to the measure of the cost attaching to it.

And so, when it is said by Mr. Whittaker that "the only means of estimating how much sacrifice or comfort we can afford to undergo to obtain an object, is by judging its value to us *previously to* and *independently of* the sacrifice" (p. 144), the statement would better read, "by judging its marginal utility to us," etc. It is true that "if the labor cost determined the value, we could expend labor cost regardlessly in producing any object whatsoever" (p. 144); but it may still be true that the labor cost of replacement furnishes the upper limit to value. "We must have a care when we expend labor: a care for what? For the value of the result" (p. 144). But if this is a subjective-value reckoning, rather than a market-value-entrepreneur reckoning, we must have a care only for the marginal utility of the result. True, "the value of the object is derived from the satisfaction it can afford," but it may be limited by the satisfaction that it displaces or by the dissatisfaction that its obtaining imposes. At least, so it seems to this writer.

And to this writer it also seems true that the exposition of Ricardo's system of thought would have been made even better than it is — and this is to ask much — had the influence of labor cost, as a leveller and proportioner of values, been interpreted as an illustration of the "opportunity-cost" computation worked out in entrepreneur competition.

Perhaps a further criticism may be formulated more dogmatically, to the extent, at least, that one is justified in being sure of anything: subject to this limitation, one feels like making the flat denial that "Ricardo never stated a law of entrepreneur cost plainly, formally, as such, though he gives it an obscure recognition as a source of difficulty to the pure labor theory of value" (p. 15). On the contrary, Ricardo recognized entrepreneur cost, and recognized wages as a part of it; he expressly denied that it is the value of the labor which determines the value of the product; instead, he asserted that

it is the relative quantity of labor required which determines the relative amount of entrepreneur outlays in wages; that is to say, he recognized entrepreneur cost, but at the same time he recognized that it is not an ultimate explanation of value. He was trying to discover the ultimate determinant; these cost outlays could not so serve, but were simply so many more items of fact, definitive for entrepreneur purposes doubtless, but nevertheless, in any view of the situation as a whole, themselves awaiting each its own explanation.

Equally sharp must be the dissent from Mr. Whittaker's assertion that

> as a theory of value . . . . Adam Smith left us an early form of the law of entrepreneurs' cost, and a labor-demand measure of value; but he disowns what is naturally thought of as the genuine classical theory of value, that labor cost regulates market value. This theory was Ricardo's, and really his alone (p. 35).

While, as we have seen, Ricardo recognized both labor cost and entrepreneur cost, and was doing his utmost to articulate them and to show how the second had its ultimate explanation in the first, and was therefore perfectly aware that he was discussing two different things, Adam Smith here, as with most other economic categories, had not only these two notions, but several more as well, all together in general mish-mash. So, while it is true that, consistently with his intense practicality, the most of his discussion shades off into the entrepreneur formulation, it is equally true that, at times, he held a distinctly labor-cost doctrine for the regulation of exchange value. It is thus, for example, that in Book I, chap. 6, he emphasizes the fact that, if it usually costs twice the labor to kill a beaver that it costs to kill a deer, one beaver will naturally exchange for — will be worth — two deer. Labor, as was evident enough to Smith, has a value; but the problem was — and still is — precisely here: is this labor value ultimate and self-sufficing, or is it merely an intermediate term in some longer chain of causal sequence? So far as Smith formulated any answer to this question, it was to ascribe to labor a non-derivative homogeneity in terms of pain, and — unless under a long-time subsistence-cost determination — a non-derivative value, and to make this value serve, with or without entrepreneur intervention, as the explanation, in terms of causation, of exchange relations.

So far also as Mr. Whittaker's discussion involves the exposition or the criticism of the Austrian theory, there appears to this writer

to be occasion for further disagreement; but these are perhaps mostly incidental matters, apart from the main and central interest of the work — the history and criticism of classical cost theory.

That this explanation and criticism are admirable in their clarity, their sympathetic and yet searching analysis, their temper and their accuracy, should perhaps once more be said, in view of the ungracious seeming of a discussion sounding almost entirely in terms of dissent; but if the attempt were made to cover the material of agreement, any adequate account of the book would become impracticable. It is certainly true that no one who cares to go to the bottom of the value controversy can afford to overlook this work.

H. J. DAVENPORT.

THE INDUSTRIAL CAPACITY OF THE GERMAN

The industrial progress of Germany during the last quarter of a century, particularly during the past ten years, has attracted universal attention. The English, especially, have been made acutely aware of the situation by the competition of this new commercial power, not only in foreign markets which they had long regarded complacently as their own, but even in the domestic market in branches where their supremacy had never before been assailed. The causes of this phenomenon are numerous, but perhaps the most interesting and important one is the character of the German people themselves. In this brief space, however, it will be possible to touch upon merely the most obvious and general characteristics of the German in his adaptation to modern capitalistic industry.

Capitalistic production requires the existence of two economic classes: (1) A class composed of persons having knowledge of the technique of production and of business management, with organizing and executive ability, together with the control of capital. Of course, these manifold abilities are rarely combined in one individual, but they are the necessary requisites of the class. (2) A class composed of persons dependent upon their labor for a livelihood, who for wages are willing to place their services at the disposal of the entrepreneur and become parts of the industrial organization. All the population of even the most capitalistic nations do not fall into one or the other of these classes, notwithstanding the statement of Karl Marx to the contrary, but in studying the industrial capacity of people we must confine our observation to those qualities which distinguish them as entrepreneurs or as wage laborers.

One of the features common to the Germanic races, and distinguishing them from the Latin and oriental peoples, is *physical vigor* and power of endurance. A severe climate has always compelled the German to make large provision of food and clothing, which could be acquired from the unfruitful soil only by the most strenuous toil. Centuries of struggle with nature for a livelihood, and with other nations in a land whose position in the center of Europe makes it the battle ground of the continent, have bred in the race a hardihood and endurance which are of great industrial advantage. The German takes life seriously; he has the ability and willingness to work long and hard for a bare subsistence.

The physical vigor of the German manifests itself also in the reproductive capacity of the race. Germany leads all the European nations in the rate of increase of population. The following table shows the average annual rate of increase of population during the past fifteen years:[1]

United States of America	1.89 per cent.	United Kingdom	0.94 per cent.
German Empire	1.50 per cent.	Spain	0.88 per cent.
European Russia	1.12 per cent.	Italy	0.69 per cent.
		France	0.17 per cent.

This is the actual, and not the natural, increase; the percentage of the United States is raised and that of Germany lowered considerably, by the migration of large masses of population from Europe to America. Germany has 363 living births annually per 10,000 of population, against 226 in France. The meaning of this difference is clearer when its effects are projected through a century: in 1820 France had four million more people than Germany; now Germany has twenty millions more than France, and this notwithstanding the heavy drain from emigration in Germany, from which France has been practically free.

The importance of the fecundity of the German nation becomes more apparent when we trace out its effects on the industrial character of the people. Nations make progress, as a rule, only when forced to do so by compelling circumstances. The pressure of an increasing population on the resources of a land is one of the most compelling causes of industrial progress. To avoid starvation, a dense population must utilize every scrap of natural produce, and if, as is the case in Germany and Great Britain, the soil is not capable of yielding the necessary amount of food-stuffs even under the most

[1] *Statistisches Jahrbuch für das Deutsche Reich*, 1904, Appendix, p. 3.

intensive cultivation, the densely populated country is forced to manufacture and market wares in order to purchase abroad these fundamental necessities of life. In a country where the increase of population is slight, and where the average number of children in a family is two, the son may step into the place of the father and, without any initiative on his part, may occupy at least as comfortable a place in the world as his father did and continue to live in the manner to which he has grown accustomed. Thus it is with the peasant population of France. The parents, whose frugality is proverbial, endeavor to leave as large a property as possible to their children, and it is not surprising that the rising generation should be content to step into the places of their fathers, continuing to live in the same conservative way. There is no necessity for innovations involving risk, worry, and disappointment, and none for leaving agriculture to enter other industries. Therefore there is lacking in France the pressure of an increasing propertyless proletariat demanding industrial employment.

It is otherwise in Germany, where large families prevail. Each child can hope to inherit but a portion of the paternal estate, and, unless he is able to acquire property by his own efforts, he must inevitably fall into a lower social class than that into which he was born. In a country of rigid social classes, such as Germany, this economic and social degradation is resisted strenuously. So it comes about that the father, instead of striving to leave large inheritances to his children, directs his efforts to equipping them as well as he can by education and training for their future careers. In the districts where small peasant holdings prevail, which are too small to divide, one son usually succeeds the father and mortgages the estate to satisfy the claims of his co-heirs. In this practice we see one of the reasons why the soil of Germany is mortgaged for over three-fourths of its value. The other sons seek places in the cities and manufacturing centers, and recruit the army of wage-laborers. Here we have present one of the requirements of capitalistic production — an increasing propertyless class clamoring for employment.

The size of families in the upper classes also has its effect on industrial progress. Among the children of these classes we find the struggle to retain a place in the social class into which they were born even more intense than in the lower classes. The father, unable to bequeath a large property to each of his numerous sons, is the more concerned to provide for them the best possible education — an

education which shall be of economic advantage. The young men of this class, possessed perhaps of a small capital, which is, however, not sufficient to maintain them in their class, educated and trained, enter industry and commerce ambitious to become entrepreneurs. They are watching for every opportunity to advance themselves or to engage in independent undertakings. In our country we know nothing of the earnestness with which these young Germans struggle to hold their own in their social class. Discharge from a position under circumstances which make difficult re-employment in the same branch is equivalent to defeat. If a young clerk loses his position in a business for which he has undergone a long training, and is unable to find immediate employment, he has no recourse to temporary employment in unskilled manual labor. The unemployed clerk would rather starve than accept a job shoveling snow and thereby lose his claim to a place in his economic class; no employer would engage a man as clerk who had been, even temporarily, an *Arbeiter*. In time of crisis the distress of this "élite proletariat" is even more acute than that of the protêgé of the soup kitchens.

In a country such as France where, in the average case, the son inherits the whole of the estate of the father, together with his social position, this class of young men, eagerly watching their chance to become entrepreneurs, and accepting every opportunity for education and training in the industry which they have chosen, will be lacking. The condition of affairs in that country in this respect is suggested by a remark of Madame de Girardin: "Chacun en France méprise son métier; on a toujours mieux à faire que son devoir."[2] The German, on the other hand, does not feel above his business, but is under the strongest incentives to master it and advance himself in it.

Thus the increasing population of Germany recruits the economic classes which are necessary for the development of capitalistic industry. The entrepreneur class is constantly receiving accessions of the most enterprising and best-trained young men of the nation; the laboring class is ever increasing its numbers, and there is always at hand an army willing to work long hours for a scanty wage. At the same time, this growing population is increasing the number of customers for home industries, and for foreign food-stuffs which must be paid for by exports of the products of home industries. An ever-widening home market enables the industries to produce

[2] Quoted by M. Georg Blondel, *l'Essor industriel et commercial du peuple allemand*. (Paris: Larose et Cie, 1898.)

on a larger scale and, consequently in most industries, more cheaply, thereby giving them greater competitive power in disposing of German wares in foreign markets. Nor is that portion of the increased population which has been forced to emigrate to less densely settled countries altogether lost to German industries. The German emigrant in his new home retains his preferences for German articles, and his demand, together with the influence of his example on his neighbors, goes far to swell the exports of the mother country.

The reproductive vigor of the German, manifesting itself in the pressure of population on the means of subsistence, which forces the people to develop industry and commerce as a measure of self-preservation, is therefore, an important fundamental cause of the industrial progress of the German nation.

The German state is the most paternal of all civilized governments. The Manchester free-trade, *laissez-faire* ideas, which attained a certain vogue in the middle of the last century, never took deep root in the German mind, and with the establishment of a strong, unified imperial government the German easily fell back into the habit of expecting the state to do things for him. He is essentially law-abiding by nature and delights in being governed. He has little of that sense of personal liberty which distinguishes the Anglo-Saxon. That a thing is *verboten* is sufficient for him; he never inquires whether there is any particular reason for the prohibition, even when it interferes with his comfort. He is trained to live by rule, and his education consists of learning facts and rules rather than of acquiring reasoning power. The distinction between the Anglo-Saxon and the German educational methods may be expressed in this wise: the German student is taught *what* to think, and the Anglo-Saxon *how* to think.

This national trait of obedience to law is fostered by the military system. Practically every male German must pass through the army; most of the young men must spend two years in the barracks in a part of the empire distant from their homes, under the absolute authority of the officers. The German army officers form a distinct, privileged social caste, living under its own special code of laws and amenable only to its own special courts. The common soldier has no appeal against his superior, nor may he defend himself, even when off duty, against a violent and brutal attack of the latter. For two years, therefore, the young German is trained in the habit

of unquestioning obedience to authority, and his personality is merged in the organization. These traits, acquired in the barracks, are taken into industry when his term of service has expired.

As modern capitalism develops, it assumes more and more the aspect of a great system in which the individuality of men is sacrificed. The operation of a large industrial plant approximates more and more to the routine of an army; with the perfection of machinery, the labor of the workman comes to resemble the drill of the soldier, monotonous and mechanical. Patient toil, endurance, and obedience are the qualities fostered in the army and utilized in industry. The capitalist could scarcely ask for a better training-school for his wage-laborers. The army is also one of the causes of the migration of the people from the land to the cities — from agriculture to industry. It is a rule of the authorities to station the recruits in barracks far from their homes, the peasants in the cities and the urban recruits in the country. In his period of service the young peasant sees enough of the city and its attractions to become discontented with the slow life of the country, and he is likely to seize the first opportunity to join the army of wage-earners in the cities. These considerations make it clear that the army, burdensome as it is to the country as a whole, must be regarded distinctly as favorable to industrial progress.

Those German youths who have completed six years of the *Gymnasium* course, and have passed a state examination corresponding somewhat to our college-entrance examinations, are required to serve but one year in the army and under more favorable conditions they may choose the regiment in which they are to serve, and may continue to live at home if that is possible. To be sure, they are volunteers *(Freiwilligen)* and do not receive the pay of the two-year soldier — twenty-four pfennigs (six cents) per day. To become an *Einjähriger* is the ambition of the young German and a powerful incentive to education. The possession of the one-year-service certificates raises its holder into a higher social class.

Nature and training, therefore, fit the German to become a part of an organization, whether it be the state or a great industrial concern. Personal liberty, independence, and initiative are repressed, and obedience, patience, and thorough training for his position are fostered. The sense of personal liberty is subordinate to a strong sense of duty narrowly conceived. Professor Sombart[3] cites this as

[3] *Die deutsche Volkswirtschaft im neunehnten Jahrhundert*, p. 122. Berlin: Georg Bondi, 1903.)

one of the great distinctions between the Germanic and Latin races; the former have a strongly developed *ethical,* and the latter a strongly developed *æsthetical,* sense. It is this sense of duty, this *Pflicht-gefühl,* that makes the German a patriotic, law-abiding citizen and an incorruptible officer. Perhaps this is why Berlin is one of the cleanest and best-administered cities of the world, while Chicago is among the worst. While the sins of the army are numerous, and many of its rules and practices, particularly the officers' code of honor, would not be tolerated for a moment in the United States, yet the integrity of the officers is never questioned and an "embalmed-beef" scandal would be impossible there.

And so it is in the civil administration, and even in the private industrial management which, as industrial progress develops partnerships into stock companies, and stock companies into syndicates and trusts, assume more and more a public character. As the German is well qualified to fill his place as a small wheel in a great machine of the state, so he is equally well qualified to occupy a similar position in a great industrial organization, whether it be as officer or private. In the earlier formative stages of capitalistic industry, the individual initiative of the Anglo-Saxon made him the industrial superior of the German; but should the present-day tendencies prove to be the permanent ones and the syndicate the normal industrial unit, then this capacity of the German for "team work," this power to efface himself in the interests of the group, will yield many advantages to German industry.

While it may be conceded that the German is by nature and training admirably well adapted to the modern capitalistic method of production, in so far as his temperament fits him for the subordinate positions in which faithfulness, honesty, and patience are required, yet it remains to be explained how he has been able to develop these great organized industries in a few short years. Whence has come the initiative to establish these industries and to adapt them to the changing needs of the times?

First of all, modern industry is based on technical scientific knowledge. The forerunners of our "captains of industry" were the natural-science philosophers who, with no thought of utilitarian application of the results of their studies, created the sciences of physics and chemistry. After these came men, working usually alone, who at intervals worked out, or accidentally stumbled upon, a principle out of which came a great revolutionizing invention. This

unsystematic method, resting on personal initiative, still prevails largely in our own country. In Germany, on the other hand, this work is organized, and the inventors are men who are first trained in the excellent technical schools and later employed in the laboratories of the industrial concerns. The initiative, therefore, to technical progress comes not from the individual so much as from the organization, either from the state authorities in maintaining the schools, or from the private industrial managers in employing the scientist and furnishing him a laboratory; the inventor himself is part of the system. The Edison type of inventor, working independently on his own initiative, is not common in Germany.

The function of the modern entrepreneur is to organize materials already at hand into a harmonious and systematic whole, and to administer the organization. This he does by controlling capital. The successful and clever management of capital we call financial skill. Personal initiative, however, is a large element in financial skill, and this is the quality which we find deficient in the German. Nevertheless, there exists in Germany an abundance of financial skill, not the possession of the German race, but of an alien race that in commerce and finance is in Germany as large or larger than, in the United States, and much larger than in Great Britain. One hundred and eleven in every ten thousand of the German population are Jews; while in England there are but twenty; in France fourteen, and in Sweden seven in ten thousand.[4] In Germany 5,205 Jews in every 10,000 are engaged in trade and commerce, against 450 Christians; 2,119 in manufacturing (of whom 885 are manufacturing and cleaning clothing); and 106 in 10,000 are in agriculture, against 3,665 Christians. The Jew is the commercial leaven of the German nation. To his financial abilities is largely due the development of those industrial organizations to which the Christian German adapts himself so well.

Banking has always been the commercial branch in which the Jew excelled. "Promoting," taking the word in its broadest sense, is done in Germany by and through the banks, a large portion of whose business consists in marketing stocks. Therefore, it is in the banks that we may locate the initiative which has developed German industry to what it is today, and within the banks we may trace it still farther to the natural traits and acquired abilities of the Jewish banker. An evidence of the part which the Jew has had in the

[4] *Op. cit.*, p. 134.

development of capitalism is furnished by the Antisemitic feeling which is current among so large a class in Germany. On examination, this feeling may be found to have originated and to exist most strongly in those classes which have suffered most from the transition from the handicraft to the capitalistic factory system of production. Having little understanding of the real source of their injuries, capitalism, they vent their wrath on those who represent that system, the Jews.

We find, therefore, that the German is well qualified for industrial success and is especially well adapted to a highly organized capitalistic system. For all the subordinate positions in a great industry, from the scientist in the laboratory and the head of a department, down to the common unskilled laborer, he is admirably fitted by nature and training. He lacks initiative, but the development of capitalism makes this characteristic less and less indispensable among the mass of people, while it requires rather those qualities in which the German excels. The lack of initiative is supplied by the Jew, and thus we have present in the German Empire all those elements which tend to make the people of a nation industrially efficient.

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CREDIT AND PRICES

At its last meeting (1904) the American Economic Association gave up one session to a discussion of the relation between credit and prices. The point of the discussion was, in substance, the question: Does the use of credit raise general prices? This was the only strictly theoretical topic taken up at the meeting. It is perhaps needless to say that the question was not finally disposed of, even in the apprehension of those who took part in its discussion. There was apparent a general reluctance to admit that credit is a price-making factor of considerable importance, at the same time that there seemed to prevail an apprehensive hesitancy about saying so in so many words. This is true only with exceptions, however. On the whole, there may be said to have been a rough consensus to the effect that credit does not have much to do with prices in ordinary times and in the general run of business, however opinions may differ as to its effect on prices in exceptional circumstances. It should be added that the discussion at the meeting was directed mainly, or almost wholly, to those forms

of credit instruments which serve as currency or as a substitute for currency.

It is, of course, not intended here to offer an off-hand solution of this large question of credit and prices, but certain phases of the use of credit in modern business, neglected in the arguments of the association's experts, may well be taken up. What is of immediate interest to modern theory is, of course, the current use of credit in business, and the relation of this business credit to the current price-level, rather than the occasional resort of credit under relatively primitive circumstances. Credit is an expedient of business, and as such it is unquestionably a factor of great importance. The price-level is similarly a fact upon which the business community's hopes and fears center. If one looks to the field of business, simply, and neglects to go behind the immediate facts of business traffic to those of the industrial process and the output of consumable goods, certain commonplace facts bearing on credit stand out in relief — obvious facts which have commonly been overlooked, perhaps because they are too obvious to be seen except with the naked eye. These are such facts as the following: The issuance of a large government loan advances the general rate of discount and depresses the price of investment securities; Business men resort to credit for the sake of gain, the gain being counted in money values; The securities covering the capitalization of a modern corporation commonly have a larger aggregate market value than the underlying tangible assets have before the incorporation; Banking is profitable, also in terms of money values; Prosperous times are attended with a large extension of credit as well as an advance in general prices; Crises and depression bring a shrinkage of credit and a decline of general prices.

From these and other phenomena of the same commonplace character the rough generalization may be drawn that an advance of prices commonly accompanies a pronounced expansion of credit. It is not plain from these facts which of the two correlated phenomena is cause and which is effect, but the great generality with which they are found in company indicates that they stand in a causal relation to one another, possibly as being the effects of the same causes. There is nothing in these general facts to preclude the view that they are mutually related as cause and effect. That a pronounced advance in prices results in an increased extension of credit seems plain from what happens during a period of prosperity, or speculative advance.

The circumstantial evidence runs to that effect, at the same time that such a result is to be expected from the nature of the case. Notoriously, a period of advancing prosperity is a period of relatively high prices, at least in some of the important branches of industry, and usually it is also a period of advancing prices. Extensions of credit, of course, run in terms of money, and are based on the money value (price) of the property submitted as collateral. If this market value of the collateral advances, then the amount of the credit which it will support will likewise increase. The market value of the collateral may increase immediately, as an incident of the advance of general prices; or it may increase through the increased earning capacity of the business property submitted as collateral, this increased earning capacity being in part due to the increased price at which the output of the business can be disposed of, in part, perhaps, to the increased volume of output which the market will carry off. In the latter case, the increased demand for the output is, at least in part, a consequence of the high course of general prices. In the case of crisis or pronounced depression all this chain of consequences is reversed. Such seems to be the rough and general run of correlation between credit and prices as conditioned by the circumstances of prosperity or depression. A closer analysis would show variations of detail under this general rule, and would afford material for detailed study.

The general statement which these facts seem to warrant is that in this connection an advance or decline of general prices brings an expansion or retrenchment of credit. Further attention to the same range of facts seems to warrant the further generalization that an expansion of credit in periods of prosperity, at the same time, causes an advance of general prices; while a general retrenchment of credit, such as occurs in time of crises or acute depression, acts to lower general prices. This point has been noted by nearly all writers on crises and inflation, and no argument need be spent in enforcing it. The manner in which it works has also been analyzed repeatedly. Movements of general credit and general prices have apparently a mutual accelerating effect upon one another, both in case of advance and in case of decline, giving rise to the well-known cumulative process of expansion or of contraction that marks a period of prosperity or of crisis or depression. In practice this cumulative movement of credit and prices is more or less disguised and disturbed by certain (secondary) phenomena, such as the issuance of large loans, particularly government loans; extensive incorporation of new companies

and consolidation of old ones, with the attendant recapitalization of the various items of wealth involved in these operations; the promotion or — in the case of depression or crisis — the collapse of extra-hazardous, speculative business enterprises, etc. These "disturbing causes" would have to be taken up separately. It will probably be admitted that the cumulative movement of credit and prices spoken of has substantially the character assigned it above.

Among the phenomena that usually accompany a period of marked prosperity, and closely related to the expansion of credit during such a period, is a large volume of new capitalization in the form of new incorporations or expansions and coalitions of corporations already in existence. The issuance of corporation securities is a credit transaction, in the sense in which economists have been accustomed to use the word. Indeed, the sale of such securities involves the typical form of credit, as contemplated by the older economists, in that its immediate effect is to transfer the use of the property which it covers from the owner to the debtor, who is presumed to be a more competent user than the owner. All this applies perhaps more patently to the sale of preferred stock and bonds than to that of common stock, but for the present purpose there seems to be no very substantial difference between these different descriptions of securities. It is currently believed, probably on sufficient grounds, that the corporations can make more profitable use of the property than the buyers of the securities, particularly a more profitable use than the buyers could make of it without spending additional time and attention in the management of the property. It is this presumed differential advantage in favor of the corporations that makes incorporation practicable on any appreciable scale. Except for the presumed advantage in gainfulness, it is safe to say, the organization of joint-stock companies would not have become a general practice. This presumed greater earning capacity of the corporations, above the earning capacity of the properties in severalty, may be due to economies of production, superior management, economies of sale, or what not. For the present argument it is only necessary to note that the corporations are presumed to have a greater earning capacity than their underlying properties, and that this presumption shows itself in the market value of the corporations' securities. This market value of the securities is commonly larger in the aggregate than the aggregate value of the underlying properties.

That is to say, the credit transaction which results in the organization of a corporation and an attendant issue of marketable securities commonly increases the aggregate price of the property involved. It is not unusual, latterly, to incorporate a business concern at a nominal capitalization of about 200 per cent. of the current market value of the underlying properties; the resulting securities will sell below par; but in the case of an ordinarily sound and sagacious incorporation the total capitalization will still have a market value of something more than 100 per cent. of the value of the underlying properties.

In this case, then, a credit transaction raises the price of the property immediately involved. Whether and how it affects the prices of other items of wealth is a question not easily answered. If the advantages of incorporation are in all cases differential advantages only, then the presumption would be that the prices of other property engaged in similar lines of business should be depressed in consequence of the incorporation. It does not seem probable that the depression in the prices of similar property outside of the given corporation, if such a depression results at all, is sufficient to balance the increase in the price of the assets of the corporation. In case the given incorporation results in a monopoly, a more or less extensive enhancement of prices may be expected to follow in its marketable output of goods or services, apparently without any necessary countervailing effect upon the prices of other goods. Price changes of this latter class, however, will probably be regarded as the effects of monopoly rather than of the credit transactions which initiate the monopoly. They need therefore not be discussed here. They could properly be discussed here only in so far as credit relations are to be accounted a necessary basis of any efficient monopoly. Under existing conditions this is probably the case, but the relation between the credit relations which enable monopolies to be organized and to operate and the resulting effect on prices is, after all, so remote that an analysis of its consequences would take the present argument out of its way.

Again, the issuance of a very considerable loan, such as a war loan of the larger sort, is known to lower the general market value (prices) of securities with a fixed interest or dividend charge. At such a juncture, because of the large demand for credit, general interest advances, and the general level of capitalization correspondingly declines; that is to say, the market value of incorporated business declines, while the "price of money" advances. The prices of

such lines of goods as are to be bought with the borrowed funds are likely to advance, and this may induce an advance in such capital as is concerned with the supply of these goods, but all that is an indirect consequence of the credit transaction rather than an immediate effect of it.[1]

The phenomena spoken of so far are of the class which the older economists would call "disturbances," rather than developments in the normal course of business. What happens in the case of such disturbances need not be taken as evidence of the effect of credit upon prices in the regular course of business in ordinary times, where no such perturbations occur, or apart from all perturbations of this kind. In the regular course of business there is, no doubt, a larger aggregate volume of credit, proportionately either to the stock of specie or to the aggregate amount of tangible wealth owned in the community, in use at present and in this country than here formerly or now anywhere else. Will general prices range higher or lower because of such a more extended use of credit? Does the more extended and the increasing use of credit during the past thirty or forty years affect the general course of prices during the same period? This question has been argued by comparing the state of things at present with the corresponding facts of a generation ago, but without conclusive results. No canvass of the statistical material bearing on the case can directly reach a solution of the question, because the variables included in the problem are too many and too unprecise. On the other hand, something in the way of tenable general conclusions may probably be arrived at through an examination of the aims which actuate borrowers and lenders, and of the method by which the work of credit extension is carried on, although such a line of inquiry can not be expected to yield anything like precise results.

As has just been noted, the credit transaction known as the floating of corporation securities results in an increased market value of

[1] This phenomenon of an equilibration between the rate of discount and the market value of securities is one of the most characteristic and indicative features of the modern business situation. An exhaustive study of it may be expected to result in a revision of the received views of credit, capital, interest, and prices, and of the interdependence of these several phenomena; but it is out of the question to pursue an inquiry of that magnitude here. It seems evident, however, that a fuller inquiry along that line should confirm the view here spoken for, that general credit and prices are intimately bound together in a relation of mutual cause and effect.

the aggregate properties involved. This increased market value is more or less permanent, somewhat in proportion as the capitalization is more or less "conservative." At the same time, it is one of the reasons for the promoting of new corporations. The promoter's bonus, with other like charges and perquisites, comes out of the margin of increase in price. The incentive to credit extensions of this kind is a prospective gain in terms of price, and in this class of transactions the business man's hope of gain is at least not commonly disappointed, even if the permanent increase of the values which he manipulates may not be as large as his anticipations.

In other credit transactions which differ from the floating of new companies in that they do not materialize in the form of corporation securities, but which are of the same kind in that the borrowed funds are made to serve the conduct of business, the end sought is of the same kind — a gain in terms of price. This gain may appear primarily as an increase in the market value of the property in which the borrowed funds are invested, as in the case of a real-estate speculation and the like; or it may appear only as a secondary effect, as an increase in the aggregate value of the output of an industry in which the funds are invested. The presumption would be that in this case also the hope of gain is not altogether disappointed. But even if the business man's hopes of gain could be shown to be false in the average of cases of this class of loans, it would not follow that credit transactions of this class initiate no enhancement of prices.

Loans of the kind just spoken of, procured with a view to investing the borrowed funds in a somewhat fixed form in business, have the direct effect of enhancing the market value of the general description of property in which they seek investment. The borrowers bid up the kind of property which they seek to buy. Whether there is a countervailing decline in the general prices of other property is doubtful and may be left on one side for the present, particularly as the argument of the next few pages approaches that question from another side.

In the ordinary conduct of business there is an extensive and increasing resort to credit in the way of loans, extended by banks in the form of deposits and by other credit institutions, such as trust companies, insurance companies, and the like, without their taking the form of deposits. In general, but more particularly where such a loan takes the form of a deposit, these extensions of credit would, by

economists who hold that normal credit does not affect prices, be considered to be an expedient for facilitating an exchange of goods. The goods which serve as collateral for the loan, it is held, are by a more or less roundabout process of accounting exchanged for the goods paid for out of the deposits. This is in substance the theory which has felicitously been named "the refined system of barter." As bearing on the question of credit and prices, this doctrine declares that such loans do not affect prices, because the borrowed funds are nothing but the fluent form of the value of the underlying collateral. The loan and the collateral are held to offset one another as demand and supply, the loan adding no more to the demand side — the effective purchasing power seeking goods — than the collateral adds to the supply side of the market situation — the effective offering of goods seeking sale. Hence, it is held, no enhancement of price can arise from such loans, the increase of funds offered in purchase being no greater than the underlying increase of goods offered for sale.

A singular query presents itself at this point. Not only is it true that the funds procured by loans of this kind, in a case of "normal" credit extension, are no larger than the value of the underlying collateral, but in the ordinary run of things the loan is not as large as the value of the collateral. No banker would be held blameless if he should extend his loans to the full ascertained value of the collateral. If the argument of the "refined system" is sound, will it not lead to the conclusion that credit extensions of this class lower general prices, since it should follow that the increase of the market demand due to the borrowed funds is overbalanced by the increase in the supply of goods represented by the collateral? The answer to the question comes into sight, if this argument is pursued a step farther.

The argument for "the refined system of barter" assumes that the collateral is of the nature of a bill of sale. It appears to break down immediately in so far as the collateral is not of this character, if it consists of property not sold or not designed presently to be sold; as, e. g., where the collateral is corporation securities or paper similar to corporation securities in the respect that it represents property which the borrower has not sold and is not trying to sell, but which is held as security during the term of the loan. The doctrine seems tenable only in so far as the collateral is of the nature of a bill of sale. A good share of current deposits and the greater part of other current loans are not of this character. The borrower's resort to credit in these cases is not an incident in the sale of the collateral. The pre-

sumption, indeed, is that he does not wish to sell. But it is safe to say that he ordinarily wishes to buy, whether it be goods, securities, or what not. Here the balance which is sought to be established between goods sold and goods bought, in the doctrine of "the refined system of barter," is upset by the fact that property not sold and not designed to be sold is made a basis of credit extension. The (discounted) value of this collateral enters the market as a factor in the demand for goods. If the determination of price is conceived in the customary way to be an outcome of the play of demand and supply, it appears that these considerations force the admission that general prices should advance as a result of these credit extensions. The general demand has been increased by "coining into means of payment" property which is not included in the general supply. It appears that, in so far as it is of this character, as it is to a very large extent, credit should raise prices.

The objection is ready, indeed it has in substance been made by those who speak for the view under discussion, that in the end the borrower must sell something or other in order to meet obligations falling due, and that in this way the balance is maintained and the transaction reduces itself to a virtual barter. All of which may conceivably be true as applies to a given transaction, although it is not unusual for such a transaction to be followed immediately on the maturity of the loan by another like transaction which virtually continues the life of the original loan. But this line of defense overlooks the time element, which is of the essence of any credit transaction. During the credit period the balance between demand and supply is not maintained, supposing the argument of the "refined system" to be otherwise sound. And from this it follows that the balance between general demand and general supply (conceiving supply in terms of goods) fails, constantly and in the nature of things, by the whole amount of outstanding credit obligations, after deducting such loans as have been sunk in the purchase of industrial equipment or have otherwise been withdrawn from the active market as a means of payment — indeed, it may even be an open question whether this deduction should be made, or just what force should be assigned to this qualification. Evidently this argument applies to the whole mass of outstanding credit, whatever the nature of the collateral. During their term the loans secured by ordinary commercial paper constitute an addition to the means of purchase as well as those loans that are secured by property not intended for sale.[2]

[2] Cf. also pp. 37–39 below.

Accordingly, such portion of the outstanding mass of credit as is available as a means of purchase must be taken to constitute an effective price-making demand and to have a force, as a price-making factor, equal to that of a like amount of hard cash used as currency. The rest of the credit outstanding at any given time, not available as a means of payment, is, perhaps, larger than this that may be called the mass of active credit, and if this "dormant" credit be deducted it appears that what is left as an active price-making factor is an indeterminate fraction of the whole. The secondary price-making effects of the loans sunk in investment are here disregarded; they seem, on the whole, to go in the direction of an enhancement of general prices, but they are complex and variable, and cannot be taken account of here except as a factor for which an indefinite allowance is to be made. It remains true that the mass of active credit, which serves as a current means of payment and so immediately affects prices, is a function of the whole mass of credit outstanding.

Now, when the mass of outstanding credit shrinks appreciably, as in a period of depression or crisis, the shrinkage ordinarily affects the credit available for current means of payment first or primarily. The consequence is a shrinkage of prices, both of goods in the open market, actively seeking a purchaser, and (secondarily) of the prices of the industrial equipment and similar items of property not intended for direct sale. Herewith the value of the collateral shrinks, forcing a reduction of outstanding loans, leading to a sale of collateral and so to an increased supply of things for sale, at the same time that the effective demand has been reduced by a shrinkage of the credit extensions used as a means of purchase.

In the doctrines of the classical economists, who at this point have not been superseded, the phenomena of credit are formulated in terms of their presumed social expediency. The actual motives and aims which animate those business men who seek credit, as well as those who carry on the traffic in credit — bankers, brokers, etc. — are disregarded, and in the stead of these business motives the presumed beneficial results of the traffic are imputed to these business men as the motives of their traffic. Perhaps for this reason the question of the banker's gain and its relation to credit and prices is commonly not broached in the received doctrines of credit and prices. Without the prospective gain the banker would not do business. So the question

suggests itself: Why is banking profitable? And what, if any, relation is there between prices and the profits of banking?

Broadly speaking, banking is profitable chiefly because the banker lends more than he has or borrows. This is his chief, though not his only, source of gain. His gains are derived from payments for two distinct kinds of service which he renders his customers. The two are currently not distinguished, the remuneration for both being indiscriminately spoken of as discount or interest, but for the present purpose a distinction seems desirable. (*a*) Banks discount commercial paper, and (*b*) banks and other concerns doing a credit business make loans on collateral which is not of the nature of a bill of sale.

(*a*) In discounting commercial paper the banker does not create credit or increase the volume of outstanding credit obligations. In substance he guarantees or authenticates the credit extension already created by the writing of the commercial paper which he discounts. A bill of sale for future payment is a credit instrument, and the extension of credit involved in its use is effected in the sale for future payment which it covers. The volume of credit so covered by the bill of sale is by the banker's authentication converted into a form available for circulation. In substance, he insures and authenticates it, and for this service he is paid in the discount of the bill. The form of the transaction gives the appearance of no increased demand for goods, since the volume of credit, and so the volume of money values available for purchase, has not been increased by the banker's intervention. This gives color to the claim that in this transaction there is no addition to the available purchasing power, and therefore no effect on prices; but this color is due to oversight of the fact that the bill itself is an instrument which covers an extension of credit already effected. It is an open question whether the banker's intervention in such a case, as authenticator of an existing volume of credit, is to be conceived as increasing the effective demand for goods. But a negative answer to this question is only an evasion. If the increase of available credit in such a case is not made by the banker, it is made by the makers of the bill. The net result is much the same.

(*b*) In making a loan on collateral which is not of the nature of a bill of sale, but represents property not intended to be sold, the banker, or any similar concern doing a credit business of this kind, creates a new volume of credit. The remuneration for this service also is called interest or discount. Such a transaction creates credit, and so adds to the borrower's funds available for purchase, and there-

fore increases the effective demand for goods, and by so doing helps to enhance prices. In such a transaction the banker lends funds which he does not possess. He is enabled to lend more in the aggregate than the whole of the funds which seek emplacement in loans through his agency. Or, to phrase it differently, he coins into means of payment goods which do not change hands in the resulting transactions of purchase and sale. Hence borrowers are enabled to borrow more in the aggregate than all the funds which the ultimate lenders have to dispose of — more than the whole of the funds seeking investment as loans plus that collateral which represents property sold or seeking sale. The purchasing power placed at the disposal of debtors is larger because of the banker's mediation than it would be without it.[8]

From this augmented purchasing power the banker deducts his remuneration as a discount. This discount is not withdrawn from the aggregate loan fund. It serves the same purpose as any other item of banker's assets, and enables him to lend more than the whole of it, or, if the wording be preferred, it enables him to make advances on collateral exceeding its own amount.

The banker's debtors, of course, negotiate their loans with a view to using the funds as a means of payment. The funds have no other use, except further lending, as in the hands of borrowing bankers. Hence, other things equal, it should follow that bank credit acts to raise prices by as much as it increases the nominal purchasing power in the hands of the business community. When the funds so secured by unmarketed collateral have been spent in the purchase of goods, the goods so purchased may in their turn be hypothecated in the negotiation of a further loan; with the result that there is a further augmentation of the volume of credit, a further increase of the effective demand for goods, and a further effect on prices. The whole movement may therefore take on a cumulative character, as it does in a marked degree in a period of prosperity, or speculative advance. Something of this cumulative character there no doubt is in the credit situation at any given time during ordinary times.

For some time past the mass of outstanding credit has been

[8] It may be that a closer analysis would show that the banker's service to his customers is also in this case, as in case (*a*), that of guarantor or authenticator of their credit and that his remuneration in the discount obtained is of the nature of a payment for responsibility assumed. If this view be taken, the form of the argument changes, but its bearing on the question in hand is not materially changed.

growing gradually larger, on the whole, and the effect of this movement should logically have been to advance general prices in a corresponding degree. The enhancement of general prices due to this cause has apparently been offset by cheapened production of goods, due to technological improvements. How far this countervailing effect of cheapened production has neutralized, or more than neutralized, the enhancement due to credit cannot be considered here. The volume of goods seeking a market has also greatly increased during the same period, and this should also have a countervailing effect. It should mask or offset the enhancement of prices due to an increased resort to credit, but this is also a matter that does not belong here. So also the relation of credit, as a price-making factor, to the production of the precious metals is no doubt a matter of some consequence in this connection, but that, too, is question of detail that requires treatment by itself.

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BOOK REVIEWS

The Police Power: Public Policy and Constitutional Rights. By ERNST FREUND. Chicago: Callaghan & Co., 1904. 8vo, pp. xcii + 819.

Professor Freund's definition of "police power" is so broad that his book contains a large amount of material which would not be expected by a practicing lawyer to be found there. It combines unusually well, however, two good qualities: first, an intelligent analysis of the reasoning upon which the precedents are based; and, second, the author's independent criticism when he does not approve of the reasoning. Some otherwise useful recent books abstain, as a rule, from expressing any independent judgment as to what the law should be, while endeavoring accurately to set forth the opinions of the judges upon the subject. The author has done well in adopting the other course. While any given point may presumably best be elucidated after it has been fully argued by competent counsel on both sides and passed through the sifting process of two or three judicial examinations, yet the overcrowded calendars of the courts in our principal states often prevent the receipt by any given case of the consideration which it deserves. The independent work of the text-writer is thus of increasing importance, not only to the legislator, but also wherever questions may be under consideration in courts not already committed upon them. This is especially true as to the class of questions which are the subject of this book. They are largely social or political in nature, and therefore of the kind as to which judicial unanimity can be the least expected. They are questions as to which the judicial point of view is the most likely to alter from generation to generation. The judges of the highest courts average at least a generation older than the legislative leaders, who are apt to be in what Dr. Osler considers the creative period of life. What they create is apt to appear unconstitutional to the senior generation, although they may continue to consider it natural and proper when they themselves have reached the dignity of the bench. Thus the reasoning of one judicial generation comes into conflict with that of the next, while the law of any given state upon a given point is apt

to be determined by the epoch at which the leading case chances to come up.

Professor Freund's work is also valuable from the fact that it is not confined to an examination of court decisions, but refers freely to developments of the law which are evidenced by statutes and ordinances as yet unconstrued. He also throws useful sidelights upon our home problems by citing the laws, past and present, of European countries; and even discusses issues that have been raised abroad, but have not yet appeared among us.

The arrangement of the subject is interesting and carefully thought out. To a practicing lawyer this is a matter of minor importance, and he is not likely to spend much time in considering whether the arrangement is logically accurate. On the contrary, he is apt to come more and more to the conclusion that the relations of legal propositions are so complex that they are not capable of satisfactory arrangement, and that the only important desideratum in the arrangement of a textbook is that it shall include all that he wants to find out about the subject. So far as I have missed finding anything in the present book, the omission has been where the book goes outside of the limits of the police power, as that term is understood in its stricter sense, as, for instance, where it discusses the federal statute-book, which is based upon other powers, enumerated in the federal constitution or implied therefrom.

EDWARD B. WHITNEY.

Industrial Organization in the Sixteenth and Seventeenth Centuries. By GEORGE UNWIN. Oxford: Clarendon Press, 1904. 8vo, pp. vii + 277.

This book, a well-reasoned account of the various forms of industrial organization from the period of the mediæval craft gild to the beginnings of the modern trade union, is a substantial contribution to the economic history of England. The first half of the book, which is based on printed sources, contains many proofs and illustrations from continental conditions; the latter half, which is based on manuscript material, deals almost exclusively with England. Appendixes contain a "List of Manuscript Sources for the History of the Industrial Companies of London during the Sixteenth and Seventeenth Centuries," and extracts from some of these sources. The author shows unusual power in the interpretation of his

material. The book is interesting, suggestive, and scholarly; but it is marred here and there by faulty literary arrangement which obscures the argument.

The first three chapters describe and account for the changes that during the fourteenth, fifteenth, and sixteenth centuries transformed the character of the craft gild. During the fourteenth century and later there was a tendency toward the amalgamation of those handicrafts that were engaged in the different stages of the production of a single commodity. In each group of allied crafts, one craft, as a rule, came to monopolize the trading function. Thereby it obtained an economic superiority over the purely industrial crafts, which either assumed a position of economic dependence upon the trading craft or, in some cases, were absorbed by it.

Owing to the increase of trading capital in the fifteenth century, a growing differentiation of classes within the craft gild resulted in a change in gild organization. The mediæval craftsman was a trader in a small way, as well as a producer, but with the separation of the trading and the industrial functions, the gild members who were traders got the upper hand, formed a select group known as "the Livery," and ruled the artisans. The artisans were at first master-craftsmen, employing a few temporary journeymen, but when industry came to be conducted on a larger scale, there was formed a class of permanent journeymen who could not hope to become masters. Even in England there was a tendency on the part of the journeymen to form separate associations; and their efforts were "in part sanctioned and in part counteracted by the policy of the masters in providing for them a subordinated form of organization in which any attempt at combined action was subject to oversight and control. This was the origin of the class of yeomen or bachelors, who came to form a new rank below the livery" (p. 51). The nature of the yeomanry organization has hitherto been a disputed question. Mr. Unwin's fuller knowledge enables him to reconcile apparently contradictory evidence. The yeomanry, which at first consisted of journeymen, was later transformed by the rise of the new class of small masters. With the extension of the market, the growth of trading capital, and the accompanying reorganization of industry along the lines of the "domestic system," two new classes appeared — the merchant employer and the small master. Mr. Unwin shows that as a result of this development the small master

in the sixteenth century supplanted the journeyman as the dominant element in the yeomanry organization.

The sixteenth century was marked by an advance in the importance of industrial capital as compared with commercial capital. In the ruling aristocracy of the town the mercer was supplanted by the draper, who was employer as well as merchant; and a further stage in the advance of industrial capital was reached, when the cloth-workers freed themselves from the drapers' control. It was the draper who organized both the trade and the industry of the town, defended the interests of the town weaver against the country weaver, and promoted legislation in protection of local interests. Indeed, "the town draper became the rallying-point of a national opposition to free trade" (p. 100), whereas the broader interests of the merchants led them to support a freer policy.

The fourth chapter, on "The Elizabethan Company," is largely a study, based on manuscript sources, of the constitution and working of the London Clothworkers' Company.

Chaps. 5, 6, and 7 deal with "The Stuart Corporations of Small Masters," "Joint-Stock Enterprise and Industrial Monopoly," and "Protectionism under James I." During the sixteenth and seventeenth centuries it was the class of small masters that bore the brunt of the economic conflict. Like the journeymen of the fourteenth and fifteenth centuries, the small masters were gradually excluded from the existing organizations, and formed associations of their own. Since the purpose of these associations was to defend the small master against the capitalist, they may be regarded as the precursors of the modern trade union. The king readily granted them charters of incorporation, for thereby he hoped to protect the poorer classes and increase his own revenues. Since the new corporations lacked sufficient capital, they tried to supply their need by means of two devices: first, through some joint-stock enterprise, and, secondly, through agreement with an individual capitalist who was able to obtain monopoly privileges from the king. Neither form of experiment succeeded.

Closely connected with the policy of bestowing monopolies was the policy of protection, which James I supported and Parliament opposed. It was a policy which failed to promote national industry, led to disastrous tariff wars, and obstructed the progress of national unity. It is true "that the foundations of England's industrial ascendancy were laid in the centuries that preceded her adoption of

the principle of international free trade," but this ascendancy is due, not to her adoption of a mercantilist policy, but rather to "the freedom of her internal intercourse and the comparative absence of mercantile restrictions" whereby for two centuries England had been "building up those productive powers which were the admiration and the envy of continental theorists, and . . . . the one essential preparation for her subsequent adoption of the principle of a larger freedom of trade" (p. 195).

The concluding chapter is entitled "The Antecedents of the Trade Union." During the course of the seventeenth century, and as a result of the growth of industrial capital, the class of small masters disintegrated into the two classes of capitalist manufacturer and journeyman, or workman of the modern type. But the journeymen were better able than their predecessors of the fifteenth century to unite in their own defense. The small masters' organization had served them as a training ground, and that they profited by their training the modern trade union shows.

FRANCES G. DAVENPORT.

VASSAR COLLEGE.

Economic Method and Economic Fallacies. By WILLIAM WARRAND CARLILE. London: Edward Arnold, 1904. 8vo, pp. x + 284.

This volume has an external appearance of unity, but in reality is a group of essays on various subjects ranging from the subtleties of economic method to the current political issue of the Chamberlain protectionist policy in England. The author would have the book taken as a treatise on certain points in the method and theory of economics, in which the question of protection serves merely as an illustration of the fallacies criticised; but the reader will be likely to see in the book rather a reargument of the question of free trade introduced by a number of remotely related discussions of terminology and of economic conceptions. The impression left by the book is, therefore, somewhat confused, as much of the material appears irrelevant from whichever point of view its treatment and purpose be considered.

The more or less independent subjects dealt with are as follows. (1) The appeal to the popular use of language as a test of truth in economic science is defended (pp. 1–67), and it is argued that economic terms have got far away from the popular terms which

embody the stored-up experience of the race. Ingeniously it is shown that the economic conceptions of the earlier economists were too much influenced by the analogy of the physical sciences; further, the character of continuity in social conceptions is clearly set forth. (2) A vigorous attack on Ricardo's law of rent and on the current doctrines (pp. 71–96) leads up to the proposition, advanced in other quarters of late, that "these distinctions of the economists between rent and not-rent have, of course, no existence for the practical man." (3) Mathematical economics is rejected (pp. 97–137) as being "not only useless, but mischievous," and as out of harmony with the most recent and accepted psychology. (4) A discursive essay on the origin of money (pp. 138–66) is believed by the author to support his favorite thesis, that the value of money is stable, and not fluctuating —a thesis which grows more puzzling the more it is explained. (5) The protectionist fallacy is re-examined (pp. 169–273). The author, a pronounced free-trader, believes that many of the old arguments for free trade were badly formulated, and that the case can be much more effectively put. The discussion, however, does not appear to differ greatly from the usual argument in support of free trade, and the relation of the concluding portion of the book to the earlier chapters becomes very remote indeed.

In the absence of any footnotes or references, it is difficult to appraise the writer's originality. Of the first part a much more favorable opinion may well be expressed than of the book as a whole. That part shows freshness of thought, suggestive appeals from economics to related branches of study, such as jurisprudence, etnics, and psychology, and strength to lift the argument out of the ruts of conventional fallacies. The author appears, however, to be a philosopher attacked by *Wanderlust*, and tramping for his own delectation along some newly opened paths of economics. He has applied in defense of land-ownership the recent criticisms of the rent theory. He adorns his pages with superior and regretful opinions upon the errors of long-departed economists, but he passes in silence his contemporaries who have anticipated his most essential thoughts. It seems hardly possible that he is not indebted to Edwin Cannon or to J. A. Hobson or to John B. Clark, who are not once mentioned.

A number of psychologists (as, for example, Ehrenfels, Meinong, and Kreibig) lately have been stimulated by the newer economic theory to a re-examination of some questions along the border-line of the two disciplines. The first part of the volume before us sup-

ports the hope that good may result from this new interest. But the best and most substantial contributions will come only from a thorough conversance with economic literature, from a docile spirit, and from a more systematic conception and treatment than is presented in the work before us.

FRANK A. FETTER.

CORNELL UNIVERSITY.

The Fourth Financial and Economical Annual of Japan, 1904. THE DEPARTMENT OF FINANCE. Tokio: Government Printing Office.

This statistical abstract for Japan is so admirably arranged, so well printed in English, and so well illustrated by graphic diagrams in color, that it quite puts to shame the similar publications of many other countries.

Apart from the graphic representations of statistics, there is an admirable map of the empire, showing distinctly steamship lines, public and private railways, and the like. Following these are tables of weights, measures, and moneys, coast and area, and population.

Part I is given to "The Budget and National Debt;" Part II, to "Agriculture, Industry, and Commerce;" Part III, to "Foreign Trade;" Part IV, to "Banking and Money Market;" Part V, to "Communications" (including post, telegraph, telephone, and shipping); and Part VI, to "Formosa" (or Taiwan).

With a population of 46,304,999 (exclusive of Formosa), Japan has a revenue of 229,855,993 yen on the general account, yielding a surplus for 1904–5 of 6,674,763 yen. The extraordinary demands of war expenditure have caused the imposition of new taxes yielding 62,000,000 yen; and by retrenchment, loans from special accounts, and by borrowing, other large sums, to the amount of 318,000,000 yen, have been provided. The total expenditure in connection with the Russian war was 576,000,000 yen for the close of the thirty-seventh fiscal year (April, 1904, to March, 1905).

Annual Report of the Bank of Japan for the Year 1904. Presented to Shareholders, February 18, 1905. Tokio, 1905.

The Bank of Japan corresponds to the central European banks that receive and disburse government funds. It was established in

1882 by a special act to regulate the currency and obviate the confusion resulting from many small banks.

The report for the year 1904 is before us, and throws some light on the financial system in Japan. To make the account simple to American experience, the balance sheet is given herewith, in terms familiar to us (000 omitted):

LIABILITIES	YEN	ASSETS		YEN
Capital and surplus	47,600	Loans:		
Profit and loss	2,978	To Government		116,500
Government deposits	32,361	On securities	9,060	
Private deposits and drafts	11,508	On accounts current	661	
Due other banks	52	Bills discounted	48,047	
Notes	286,626	Foreign bills redisc.	21,549	
		Deposits	27,401	
		To redeem National bank notes	86	
				106,804
		Government bonds		54,301
		Bank property		2,935
		Due from other banks		10,153
		Bullion	69,150	
		Cash	21,282	
				90,432
Total	381,125			381,125

From this account it is seen that the cash and bullion form a reserve of about 30 per cent. of all immediate liabilities, including private deposits and notes and excluding government deposits. The disposition of the assets between bonds and loans is also disclosed. In the main, the account shows a fairly conservative situation in a time of war and financial pressure, even though the reserves are somewhat light.